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NEWS AND THERAPEUTIC HINTS.

Inhalation Treatment in Chronic Laryngitis.

There are two methods of inhaling: in the first the medicament is atomized to impalpable vapor by means of sterilized air in a cabinet, while in the second the inhalation is through a sterile mouth-piece or nose-piece.

The medicated steam, a mixture of compound tincture of benzoin, 1 : 20, is inhaled at a temperature of from 140° to 170° F. for about fifteen minutes. This is followed by inhalations of oily substances without the aid of heat, either of the two following being used:—

℞ Camphoræ, ʒj.
Olei picis liq., ʒij.
Iodi, gr. xx.
Creosoti, ʒj.
Mentholis, gr. xxx.
Olei sesami, ʒiv.

or a 5 per cent. solution of the following:—

℞ Iodi, ʒvj.
Acidi oleici, ʒij.
Olei paraffini liq., ʒiv.
Olei sesami, q. s. ad Oj.

The patient remains indoors for from fifteen to thirty minutes after each treatment. The use of tobacco is prohibited. (E. Mayer, in Jour. Amer. Med. Assoc.)

Deformities of Illustrious Men.

In his presidential address at the twenty-sixth annual meeting of French surgeons held in Paris recently, Dr. Kirmisson mentioned, among the illustrious men who have been deformed, Tyrtæus, the lyric poet, who was lame, and Æsop, the fabulist, whose bust by Thorwaldsen shows the deformity of Pott's disease; Alexander the Great, who had torticollis; Soult, Talleyrand, Walter Scott, and Lord Byron. Soult's infirmity was not congenital, but was caused by a wound in war. As for Walter Scott, Kirmisson concludes from the information furnished by Scott's autobiography that the cause of his lameness was infantile paralysis, which produced an equinism. One of his biographers, Robert Chambers, says that he rested his weight on the tips of his toes. At the end of two years he began to walk by the aid of crutches. It is difficult to procure exact information with regard to the deformity of Talleyrand. Kirmisson was able to study a shoe of Talleyrand's recently bequeathed to the Carnavalet Museum in Paris, which indicates that the deformity was an equinovarus of the right foot. In the case of Byron, also, a pair of orthopedic shoes made for him as a child, which are in the possession of Murray, the English publisher, indicates the same deformity as in Talleyrand's case. This agrees with a letter written by his mother when the child was 3 years old, saying: "George's right foot turns in. He walks almost entirely on the side of the foot." It also agrees with the description in the Lancet by Sheldrake, who was commissioned to make orthopedic shoes for Byron. If the deformity in question seems not to have troubled Talleyrand greatly, it was a veritable torture for Byron. "When one sees what a source of physical and moral torture a deformity may be," remarked Kirmisson, "one realizes the benefit of orthopedic surgery." (Jour. Amer. Med. Assoc.)

Gout.

℞ Ext. colchici,
Ext. aloes,
Pulv. ipecacuanhæ,
Hydrarg. chlor. mitis, āā gr. j.
Ext. nucis vomicæ, gr. ¼.

M. Ft. in pil. no. xij.

Sig.: One pill to be taken every four hours until purgation ensues.

The following is useful where there is high arterial tension of gouty origin:—

℞ Potassii bicarbonatis, ʒix.
Potassii nitratis, ʒvj.
Sodii nitritis, gr. xx.

M. Ft. in chart. no. xx.

Sig.: One powder in the morning in a large glass of water. (Critic and Guide.)

NEWS AND THERAPEUTIC HINTS.

Painful Dyspepsia.

℞ Acidi hydrocyanici diluti, ʒj.
Tincturæ belladonnæ foliorum,
Bismuthi subnitratis, āā ʒij.
Aquæ destillatæ, q. s. ad ʒiv.

M. Sig.: Teaspoonful before each meal. (Med. Sentinel.)

Relative Toxicity and Excretion of Methyl and Ethyl Alcohols.

Pharmacologically it is well known that the toxicity of the alcohol series increases with the molecular weight (that is, with the increasing number of CH_3 radicles), until a point is reached at which the hydrocarbon becomes almost or quite soluble and hence inactive. However, there is a popular belief—among medical men as well as the laity—that methyl (wood) alcohol is more toxic than ethyl alcohol. This holds true in subacute poisoning only, *i.e.*, after about twenty-four hours. Within six to twenty-four hours ethyl alcohol is roughly 10 per cent. more toxic than methyl. A partial explanation of the greater toxicity of methyl alcohol in subacute poisoning is as follows: Under ordinary conditions ethyl alcohol is rapidly and almost completely oxidized in the body; not more than 2 per cent. is excreted unchanged (by the lungs and kidneys). The case is quite otherwise with methyl alcohol, which is largely oxidized to formic acid. The acid is readily excreted by the urine, but the excretion reaches its maximum only after four days, which means that methyl alcohol or some intermediate product remains in the body during a period of several days. Recently, Völtz and Dietrich have determined the excretion of methyl and ethyl alcohol administered to dogs. In twenty-four hours 15.3 per cent. of the introduced methyl alcohol (2 c.c. per kg.) was recovered (mainly from the expired air, to a lesser extent from the urine); in forty-eight hours there was a total excretion of but 24.3 per cent., while 36.8 per cent. was recovered from the cadaver, leaving but 39 per cent. oxidized in the body. With equal quantities of ethyl alcohol (2 c.c. per kg.), within ten to fifteen hours 2 to 4 per cent. was recovered from the expired air and 0.4 to 3.8 per cent. from the urine; from two cadavers 25 per cent. was recovered ten hours after administration; from four cadavers but 3 to 12 per cent. fifteen hours after administration. Thus practically the entire quantity of introduced ethyl alcohol was either oxidized or excreted within twenty hours. (Cleveland Med. Jour.)

NEWS AND THERAPEUTIC HINTS.

Weeping Erythematous Eczema.

When occurring upon the face there is usually much edema of the loose tissue in the infra-orbital region, so that the condition may be mistaken for erysipelas. Avoid greasy applications and use wet dressings soaked in normal saline. This lotion will relieve the irritation and smarting:—

℞ Calaminæ, ʒij.
Zinci oxidi, ʒj.
Glycerini, ʒss.
Liquoris calcis, q. s. ad ʒvj.

M. et ft. lotio.

When the exudation has practically ceased, one may use a powder of oleopalmitate of zinc, mixed with one-half its weight of powdered starch, or this zinc cream:—

℞ Zinci oxidi, ʒj.
Adipis lanæ, ʒij.
Olei olivæ,
Liquoris calcis, āā partes æquales ad ʒiv.

M. et ft. cremor. (Can. Lancet.)

Chilblains.

M. Brocq (La Quinzaine thérapeutique) recommends bathing the affected parts with a decoction of walnut leaves as hot as can be borne, drying carefully and then applying the following powder:—

℞ Bismuthi subsalicylatis, 10 Gm.
Amyli, 90 Gm.

As a preventive, friction with camphorated alcohol is useful.

For the severe itching the following lotion may be rubbed in:—

℞ Glycerini,
Aquæ rosæ, āā 50 Gm.
Acidi tannici, 0.1 to 1 Gm.

Internally, 2 to 4 of the following pills may be taken a day, to assist in the restoration of vascular tone:—

℞ Quininæ sulphatis,
Ergotin, āā 0.05 Gm.
Pulveris digitalis foliorum, 0.005 Gm.
Extracti belladonnæ foliorum, 0.001 Gm.

These should be given at the approach of cold weather, with several days' intermission.

To preserve the hands one may also apply the following cream:—

℞ Adipis lanæ hydrosi, 60 Gm.
Olei amygdalæ dulcis, 50 Gm.
Petrolati, 0.1 Gm.
Olei rosæ, gtt. x. (Urol. and Cutan. Rev.)

NEWS AND THERAPEUTIC HINTS.

PREVENTION OF PREMATURE LOSS OF HAIR.

D. Freshwater, in the Practitioner, asserts that thyroid treatment has a beneficial effect on hair growth, especially in cases of loss of hair associated with a dry and ichthyotic skin. In some cases of premature grayness, thyroid medication may lead to a return to the normal color. Pilocarpine does promote hair growth when taken by mouth or hypodermically, or used in an ointment. If one of the first two routes mentioned is employed, flannel should be worn regularly and care taken to avoid an excessive cardioinhibitory effect. Used externally, pilocarpine gives good results by stimulating the sebaceous glands and presumably also the hair-growing apparatus.

In the local treatment of premature loss of hair, shampooing every evening with an alcohol and green soap lotion, followed, after drying of the hair, by the rubbing of an antiseptic ointment on the scalp, is indicated. The patient should be warned that the frequent washing will cause an increased fall of hair at first, due to traction on already loose hair. This will prove advantageous, however, in allowing the follicles at once to produce new hair, which by efficient treatment may be strengthened and maintained.

After the first month of treatment, the measures indicated vary according to whether the hair is normally dry or greasy. In the former case the following formula is efficient:—

℞ Acidi salicylici, gr. x (0.6 Gm.).
Hydrargyri chloridi corrosivi, gr. ss (0.03 Gm.).
Spiritus lavandulæ, ʒiij (12 c.c.).
Alcoholis, ʒj (30 c.c.).

M. Sig.: Rub carefully on scalp once or twice daily.

Shampooing need now be done only once a week.

After the lotion has been employed, as a rule, for eight to twelve weeks, and the disease is well under control, a pilocarpine lotion or ointment should be substituted for it. Resorcinol may be combined with this as antiseptic:—

℞ Pilocarpinæ hydrochloridi, gr. vij (0.45 Gm.).
Resorcinolis, gr. xij (0.75 Gm.).
Spiritus lavandulæ, ʒj (4 c.c.).
Alcoholis, q. s. ad ʒj (30 c.c.).

M. et fiat lotio.

This lotion may be continued indefinitely as a daily dressing for the hair. If it is found too drying, the following may be prescribed:—

℞ Pilocarpinæ hydrochloridi, gr. v (0.3 Gm.).
Resorcinolis, gr. x (0.6 Gm.).
Olei ricini, ♏xx (1.25 c.c.).
Spiritus lavandulæ, ♏cc (13 c.c.).
Alcoholis, q. s. ad ʒj (30 c.c.).

M. et fiat lotio.

In cases where normally the hair is dry, and a large amount of scales is present, a tar soap may be advantageously prescribed for the shampoo, which is to be done twice a week. Daily use of an antiseptic ointment is indicated, to supply fat to the hair. This ointment, which should also contain sulphur, should be used daily for two or three months, when a change can be made to a pilocarpine ointment.

Massage of the scalp will produce brilliant results as regards regrowth of hair. The head should not be rubbed with the finger-tips, but the tissues carefully and firmly pinched up between the fingers, the scalp being gone over thus in all directions. (N. Y. Med. Jour.)

NEWS AND THERAPEUTIC HINTS.

Pulmonary Emphysema.

Robin, in his "Thérapeutique usuelle du praticien," advises that the respiratory passages be kept in an aseptic condition. He uses the following:—

℞ Bismuthi subnitratis,
Acidi borici, āā gr. lxxv.
Camphoræ, ʒiiss.
Cocainæ hydrochloridi, gr. ⅛.
Mentholis, gr. ¾.
Mix thoroughly.
Sig.: For a snuff.

Before using the foregoing, the passages may be irrigated with a 3 per cent. solution of borax. The same solution, flavored with mentholated alcohol, may be used for the mouth and throat, or a good liquid dentifrice will serve.

As to internal treatment by drugs, Robin prescribes:—

℞ Sodii arsenatis, gr. ¾.
Potassii iodidi, gr. lxxv.
Aquæ destillatæ, ʒx.
M. Sig.: Large tablespoonful ten minutes before meals. Continue for ten days, then intermit.

For the ten days of intermission, order:—

℞ Strychninæ sulphatis, gr. ss.
Aquæ destillatæ, ʒx.
M. Sig.: Dessertspoonful twice a day.

Robin points out that all treatment of pulmonary emphysema is more or less palliative, as the condition is essentially chronic. Strict hygienic precautions are demanded, change of air, care in diet, etc. (N. Y. Med. Jour.)

Myalgia.

℞ Methylis salicylatis, fʒiij.
Mentholis, gr. xx.
Linimenti aconiti et chloroformi (N. F.), fʒiij.
M. Sig.: Rub in every two or three hours.

℞ Antipyrinæ, gr. lxxx.
Sodii salicylatis, ʒij.
Dioninæ, gr. viij.
Syrupi aurantii,
Aquæ, āā fʒj.
M. Sig.: Teaspoonful every three hours. (Merck's Archives.)

NEWS AND THERAPEUTIC HINTS.

Scabies.

℞ Sulphuris sublimati,
Balsami Peruviani, āā ʒj.
Paraffini mollis, ʒviij.

M. et ft. unguentum. (Tribune méd.)

Acne With Oily Skin.

℞ Sulphur,
Ether,
Alcohol, of each, ʒij.
Glycerin, ʒiv.
Lime water, enough to make ʒviij.

Mix, and apply three times daily after bathing face with soap and hot water. (Med. World.)

One Hundred Years of Iodine.

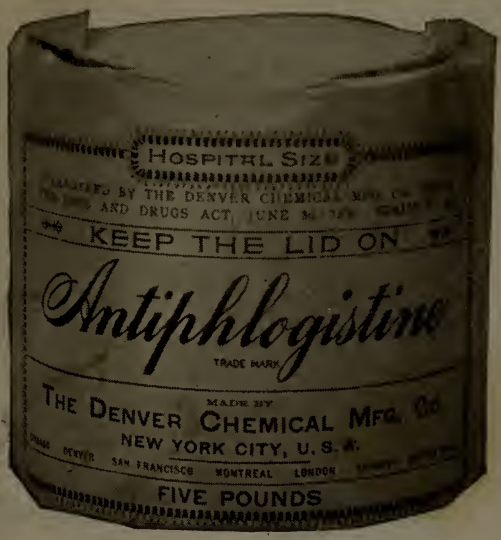
In view of the important rôle assumed by iodine and the iodides in modern therapeutics, it is not, we think, amiss to give the readers a short historical sketch of this product. The moment is particularly propitious, inasmuch as it was only last November that there was celebrated the centenary of its discovery, reported to the Académie des Sciences.

Iodine was accidentally discovered, in 1811, in the ashes of seaweed, by the French apothecary Bernard Courtois. On hearing the facts presented to the Académie des Sciences, Paris, on November 20, 1813, Sir Humphrey Davy at once suspected the elementary nature of the substance, but he was forestalled by the noted French chemist Louis Gay Lussac, who presented a paper on the elementary nature of iodine before the Paris Académie des Sciences on November 20, 1813.

To the substance previously unnamed he gave the name of iodine, from the Greek (iodes = violet like).

Iodine was introduced into medicine by Dr. Jean François Coindet, of Geneva, Switzerland, and Dr. J. C. Lugol, of the Hôpital Saint-Louis, Paris, whose name continues to live in pharmacy and medicine as "Lugol's solution."

In the case of iodine, one of the many French discoveries, science owes a debt of gratitude to the pharmacist who discovered the substance and to the physician who introduced it into medicine. To the former the Académie des Sciences in 1832 allotted the sum of 6000 francs and to the latter 3000 francs. (Treatment.)



Rheumatic Affections—

all hot, painful, swollen, inflamed joints, due to faulty metabolism—retention, and impeded elimination, of body-waste; are speedily relieved and the way to physiological repair opened up, by the intelligent, prompt use of

Antiphlogistine
TRADE MARK

NOTE—Apply Antiphlogistine, as hot as can be borne by patient, around the *entire* joint; cover with cotton and a *comfortable* bandage. Remove when "ripe" or when peels off nicely. Antiphlogistine *does not interfere with your internal* medication, Doctor—its *composition* being known to you.

Antiphlogistine is prescribed by Physicians and supplied by Druggists all over the world.

"There's only ONE Antiphlogistine"

THE DENVER CHEMICAL MFG. CO., NEW YORK, U. S. A.

NEWS AND THERAPEUTIC HINTS.

Infantile Constipation.

℞ Resinæ podophylli, gr. ¾.
Alcoholis, ʒ¾.
Syrupi altheæ, ʒiij.

M. Sig.: A dessertspoonful daily. (Med. Sentinel.)

Ear Anesthesia.

E. C. Ellett has found equal parts of cocaine, phenol, and menthol to make a very satisfactory anesthetic mixture for performing an incision of the tympanic membrane in cases of otitis media. (Med. Standard.)

Rapid Clinical Method for the Estimation of Urea in Urine.

The method consists in incubating a portion of urine with an aqueous extract of soy-bean flour, all the urea being thereby transformed into ammonium carbonate through the action of an enzyme existing in the soy bean. To prepare the extract, 25 Gm. of soy-bean powder are mixed with 250 c.c. of distilled water and allowed to stand an hour; 25 c.c. $N_{10}HCl$ are then added, allowing the mixture to stand a few minutes longer. This precipitates most of the protein, which is then removed by filtration. A few drops of toluene are added to the filtrate as a preservative. The urea determination is as follows: Two 5-c.c. portions of urine are measured into flasks of 200-300 c.c. capacity and diluted with distilled water to 100-125 c.c. Two c.c. of enzyme solution are added to one flask, a few drops of toluene to each, and the solution allowed to remain well stoppered at room temperature overnight. The fluid in each flask is then titrated to a distinct pink color with $N_{10}HCl$, using methyl orange as an indicator. The amount of HCl required for the urine and enzyme solution, less the amount used for the urine alone and the amount (which must have been previously detained) required to similarly titrate the enzyme solution corresponds to the urea present in the urine. One c.c. $N_{10}HCl$ corresponds to 0.6 Gm. per liter of urea in the urine. The error of the method is under 2 per cent. (E. K. Marshall, Jr., in Jour. Biol. Chem., through Buffalo Med. Jour.)

NEWS AND THERAPEUTIC HINTS.

Preservation of Rubber.

Michailowsky states that sprinkling with naphthalin kept rubber tubing in a glass jar in good condition for three years and that this method is available for all kinds of soft-rubber goods. (Critic and Guide.)

Depilatory.

A mixture of 1 dram each of starch and barium and ½ dram of zinc oxide is a good depilatory. Mix with a little water in a watch glass, and apply to the part to be denuded. Remove after two minutes, when the hair will usually have disappeared. (Can. Lancet.)

Olfactory Sense of Insects.

A great number of facts of the life of insects can hardly be explained excepting by admitting a particularly powerful olfactory sense in these animals. The examples are numerous; if, in an ant hill, an ant of the same species as those that inhabit it, but belonging to another swarm, tries to penetrate, it will immediately be expelled. Sometimes the hypothesis has been supposed of a sort of language allowing each individual to make itself known, but deafness is general in the class of insects, and ants in particular are absolutely deaf. So then there only remains the odor special to each swarm which appears to constitute a mode of identification. In the same way, when the corpse of a small mammiferous animal is becoming decomposed in a field, a legion of sylphs and necrophors, strangers to the immediate neighborhood, coming sometimes from a distance of several kilometers, arrive to lay their eggs there, guided, it would seem, merely by their sense of smell. It is also their scent which leads the sacred scarabeus to the excrements of herbivorous animals, of which it will make a ball in which to place its progeniture, etc. But is it really scent that guides the insect? Very little is known on the subject; the only precise experiments are due to Fabre, the learned entomologist of Serignan, to whom are due those marvelous studies on the life of insects that he has so well related in his "Entomological Mémoires." The starting point of these experiments was the sexual attraction in butterflies, well known to entomologists, which enables individual insects to meet in spite of the often considerable distance and difficulties of the way. Fabre enclosed females of different species of butterflies in a metallic trellis, and found that numerous males arrived. A remarkable particularity of these experiments was that one of the specimens studied had very rarely been observed in the region. On the contrary, if the females were shut up under an hermetically closed glass globe the attraction ceased, but all objects, branches, stuff, paper, on which they had rested for some time was seen to be possessed of the same attractive properties. Fabre has concluded from these results that a particular odor exists incapable of affecting our sense of smell, but which can be transmitted to a great distance. Although it is bold to generalize, it seems possible to admit that insects are endowed with a wonderfully strong olfactory sense which no other animal possesses. (Chemical News; Merck's Archives.)

NEWS AND THERAPEUTIC HINTS.

Tabes, Particularly Pain and Paresthesia.

Hirsch recommends the use of a solution containing 1 per cent. of oxycyanide of mercury and 0.4 of acoin, given by intramuscular injection in the dorsal region in a dose of from 1 to 2 c.c. (♏xv to xxx). The lightning pains and the girdle pains disappear at the end of a few minutes. The effect is lasting, and can also be obtained in cases of alcoholic neuritis, but in patients showing painful symptoms in other affections of a non-specific character the effect is not produced; in fact, in some cases the symptoms have been aggravated. These injections, which also take effect in supraorbital neuralgia, even when non-specific, are not painful. (Münch. med. Wochenschr.; Practitioner.)

Means of Facilitating Version.

A method of effecting version by pressure on the thighs in transverse presentations is described by the author. A powerful influence on the transverse fetus can be exerted by having the woman assume a crouching position, with the body bent forward. Under these conditions pressure is caused in the precise directions necessary for an attempt at version by external manipulation. A. F. A. King, in Presse médicale.)

Local Treatment of Acne.

Gaucher, in Monde médical, is credited with the following formula:—

℞ Sulphuris præcipitati, ʒiss (6 Gm.).
Talci pulveris, ʒss (2 Gm.).
Glycerini, ʒij (60 Gm.).
Aquæ rosæ, ʒiv (120 Gm.).
Tincturæ quillajæ, ʒiij (10 Gm.).

Misce secundum artem.

This preparation should be applied every evening over the affected area and allowed to remain overnight. Each morning the skin should be cleansed with hot water and a mixture of sulphur and talcum dusted over it:—

℞ Sulphuris præcipitati, gr. xx (1.25 Gm.).
Talci pulveris, ʒij (60 Gm.).

M. et ft. pulvis.

If necessary, pustules may be opened, evacuated, and washed with a 1 per cent. solution of resorcinol. (N. Y. Med. Jour.)

NEWS AND THERAPEUTIC HINTS.

Chronic Nasal Catarrh.

W. Wilson states that it is absolutely essential, in the treatment of chronic catarrh, that the general health be perfected. Many patients will recover upon adopting a wholesome open-air mode of life, with abstention from tobacco, alcohol, etc. Calomel on alternate evenings, with magnesium sulphate in the morning, should be employed to relieve portal congestion.

Local treatment consists of simple lavage, which, however, must be persisted with. One teaspoonful of the following powder, added to a pint (500 c.c.) of tepid water, forms an efficient preparation for the lavage:—

℞ Powdered boric acid,
Sodium bicarbonate,
Sodium chloride, equal parts.

Add a little crystalline menthol, mix well, and grind.

A ball syringe should be employed in the douching, but great gentleness is necessary. If the head is bent somewhat forward and the patient performs rapid, sharp expirations through the mouth, there will be little danger of the solution entering the sinuses. On no account, however, should a swallowing movement be made.

Where there is a tendency to dryness and crusting, local treatment is best carried out by means of an oily solution sprayed with an atomizer:—

℞ Mentholis, gr. v (0.3 Gm.).
Camphoræ, gr. ij (0.12 Gm.).
Olei eucalypti, ♏iij (0.2 Gm.).
Olei amygdalæ dulcis, q. s. ad ℥j (30 Gm.).

M. et ft. solutio.

Where, upon examination, so much nasal obstruction is found that cocaine and epinephrin cause no shrinkage of the tissues, establishing freedom of the respiratory passages by operation is necessary before any treatment of the catarrhal condition can be successful. (Practitioner.)

Lentigo.

According to Hughes, the following application is usually successful:—

℞ Hydrargyri chloridi corrosivi, gr. iij.
Acidi hydrochlorici diluti, f℥j.
Alcoholis, f℥j.
Glycerini, f℥ss.
Aquæ rosæ, q. s. ad f℥iv.

M. Sig.: Apply at bedtime, and remove with soap and water in the morning. (Merck's Archives.)

NEWS AND THERAPEUTIC HINTS.

Defects in Speech.

In the course of this study of what the general practitioner can do to ward off and cure defects in speech, Froschels emphasizes that much can be done in preventing the development of stuttering. When a child hesitates and repeats the last syllable over and over, it is because its little brain cannot keep up with its speech; it keeps repeating the last syllable until it can think of the proper word to go on with. This is not pathologic, but it becomes so if the child's attention is drawn to this habit. The family and friends must have impressed on them with great emphasis that it is absolutely necessary to refrain from attracting the attention of the child to this slight defect in its speech. It must not be corrected, or forced to repeat the word over again, and, above all, no impatience should be manifested. If the child's attention is once attracted to this simple repeating of the last syllable the trouble becomes confirmed and we have the severe disturbance of stuttering which may brand the individual through life and make him hold aloof from his kind. (Med. Klinik; Charlotte Med. Jour.)

NEWS AND THERAPEUTIC HINTS.

Laxative Powder.

Hélouin, in Journal de médecine de Paris, is credited with the following formula for a laxative powder:—

℞ Acidi citrici (pulverisati et desiccati),
Potassii et sodii tartratis, āā ʒiiss (10 Gm.).
Sodii bicarbonatis, ʒv (20 Gm.).
Olei limonis, q. s.
M. Fiat pulvis. (N. Y. Med. Jour.)

Chestnut Toxemia.

T. C. Merrill calls attention to certain toxic symptoms that have been observed in persons after eating chestnuts from trees affected from the so-called chestnut blight due to a fungus which has been destructive in some of the New England States. Chestnuts from healthy trees are not considered toxic, but it should be remembered that during germination they are remarkable for enzymic activity and it is possible that liberation of toxic substances may then occur. The fungus of chestnut blight (*Endothia parasitica*) affects the nutrition by destroying the bark, and, while infection of the nut has been observed, such chestnuts are not likely to be eaten. Influences affecting the eatable portion may be due to perverted sap in the diseased trees. He gives a table of the symptoms observed in 21 cases which cannot be easily reproduced here, but which is instructive. No positive claim is made that the symptoms are due to the eating of chestnuts. The *post hoc,* though present, is not here intended necessarily to mean *propter hoc.* It may take several chestnut seasons to determine this question. Food poisoning, aside from the chestnuts, is excluded in the series. The cases seem to be accompanied with gastroenteric symptoms and great prostration and slow recovery seemed to be almost the rule. The term "great prostration" is used as indicating an effect disproportionate to any known cause. Chemical and biological examination of chestnuts is now being carried on and the results are hoped to be reported in a future paper. (Journal A. M. A.)

Spasmodic Laryngitis.

℞ Tinct. aconiti, ♏viij.
Syr. ipecacuanhæ, fʒiss.
Tinct. opii camphoratæ, fʒiij.
Liq. potassii citratis, q. s. ad fʒiij.

M. Sig.: One teaspoonful every hour or two. (Merck's Archives.)

NEWS AND THERAPEUTIC HINTS.

PASTEURIZATION OF MILK AT LOW TEMPERATURES.

To determine the best way of pasteurizing milk so as to kill the disease germs and yet avoid giving the milk a cooked flavor or lessen its nutritive value, the Department of Agriculture has been conducting experiments, heating milk to different temperatures and for different lengths of time. According to Bulletin 166 of the Bureau of Animal Industry, when milk is pasteurized at 145° F. for thirty minutes the chemical changes are so slight that it is unlikely that the protein or the phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriologic standpoint, pasteurizing at low temperatures is found to be more satisfactory than at high temperatures. Where low temperatures are used, the majority of bacteria that survive are lactic acid organisms, which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated if kept for any length of time has a tendency to rot instead of sour. It takes about 23½ per cent. less heat, furthermore, to raise milk to 145° F. There is a similar saving in the ice needed, as it requires 23½ per cent. more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The Department, therefore, recommends that "when market milk is pasteurized it should be heated to about 145° F. and held at that temperature for thirty minutes." (Arch. of Pediat.)

MOUTH-WASHES.

Chinosol Mouth-wash.

Chinosol, 3 Gm.
Glycerin, 10 c.c.
Rose water, 90 c.c.

Salol Mouth-wash.

Phenyl salicylate, 2 Gm.
Peppermint oil, 1 c.c.
Clove oil,
Cinnamon oil,
Anise oil, of each, 0.5 c.c.
Alcohol (90 per cent.), to make 200 c.c.

Swedish Mouth-wash.

Boric acid, 50 Gm.
Borax, 5 Gm.
Tincture of cloves, 25 c.c.
Water, 4000 c.c.

(Critic and Guide.)

NEWS AND THERAPEUTIC HINTS.

Pertussis.

℞ Mentholis, gr. v.
Thymolis, gr. xv.
Ol. eucalypti, ʒij.
Ol. pini sylvest., ʒiij.

Place teaspoonful on boiling water and inhale under hood. (Critic and Guide.)

Subacute Rheumatism.

Oppenheim advises the following local applications:—

℞ Mentholis, gr. xv.
Guaiacolis, ʒj.
Methylis salicylatis, ʒj.
Linimentum camphoræ, q. s. ad ʒiv.

M. et ft. linimentum.

Sig.: Use locally on affected parts.

℞ Acidi salicylici,
Olei terebinthinæ, āā ʒj.
Adipis lanæ,
Adipis, āā ʒiv.

M. et ft. ung.

Sig.: To be applied frequently to affected parts.

To be given internally:—

℞ Chlorali hydrati,
Potassii bromidi, āā ʒj.
Syrupi codeinæ (1:500), ʒj.
Aquæ, q. s. ad ʒiv.

M. Sig.: One teaspoonful at night. (Progès médical; Jour. Med. Soc. of N. J.)

NEWS AND THERAPEUTIC HINTS.

Migraine.

℞ Sodii bromidi, gr. xij (0.78 Gm.).
Antipyrinæ, gr. vij (0.45 Gm.).
Tincturæ cimicifugæ, ♏xx (1.25 c.c.).
Aquæ, q. s. ad ℥ss (15 c.c.).

Twice a day. (Med. Rev. of Rev.)

Nasal Catarrh.

Wilson, in The Practitioner, says he has found that the most useful treatment in cutting short an attack of acute coryza is the following: 1. A single pill of morphine, ⅙ grain, made up with a little capsicum and ol. menth. pip. A small dose of nitroglycerin also is advantageous. 2. In two hours 10 grains of aspirin. 3. A hot bath. The following morning a purgative dose of magnesium sulphate is given to clear away the intestinal contents held back by the morphine. Neither a nasal douche nor a spray should be employed, but an irritant antiseptic ointment, containing menthol and salicylic acid, will best fulfill the purpose. A small portion of such an ointment is inserted well up into each nostril, where, if sniffed back, it gives rise to considerable smarting and secretion; it should be applied frequently despite the pain. It will be succeeded by a period of relief, and then the nose can be sprayed repeatedly with a sedative preparation. Despite the pain caused by the menthol-salicylic preparation, no cocaine should be employed at all, as it paralyzes the ciliated epithelium and opens the way for fresh infection. (Jour. Med. Soc. of N. J.)

Seasickness.

The writer expresses his belief that there is a mechanical factor involved in seasickness, namely, the swaying and dragging of the stomach on the esophagus with the pitching of the ship. As an adjuvant to other measures, he warns not to load the stomach, and advises winding a bandage around the stomach to lift it up and thus remove the strain on the esophagus and reduce the swaying of the stomach. His experience with this simple mechanical measure has been very favorable. He urges its use in connection with Fischer's atropine treatment, remarking that Fischer's theoretical explanation of the nervous causes of seasickness seems logical and convincing.

Dr. J. Fischer's paper appeared in the Münch. med. Woch., July 29th, in which he gives his method of treatment substantially as follows:—

In 52 severe cases of seasickness he gave a subcutaneous injection of atropine in a dose of 0.001 Gm. to men and 0.00075 Gm. to women. All the symptoms of seasickness had generally disappeared by the end of three or four hours; only in very exceptional cases was a second injection necessary. In one group of 8 very seasick persons given the injection, all felt entirely well the next morning except 2, who were only much improved, while a similar group not given any treatment had their seasickness continue unmodified. The harmlessness of the atropine in this dose, he says, is beyond question. By the mouth a good effect was apparent in 30 cases, but it was less pronounced and slower in developing. The dose by the mouth was 20 drops of a 1 per thousand solution. He explains how nearly all the symptoms of seasickness can be traced to irritation of the vegetative nervous system, and this he ascribes to the movements of the boat. (Friedländer, in Münchener med. Woch.)

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Original Articles and Summaries of Selected Articles

THE ADIPOSOGENITAL SYNDROME IN CHILDREN.*

By GEORGES MOURIQUAND, M.D.,

PARIS.

Different Types of the Adiposogenital Syndrome.—This syndrome is characterized by: (1) signs of brain compression due to a pituitary tumor, including bitemporal hemianopsia; (2) adiposity accompanied by genital atrophy or profound functional disturbances in the reproductive organs. Fröhlich's original case appeared to him at first to be one of incomplete myxedema with obesity. Thyroid medication did, indeed, improve the headache and visual disturbances, but had no action on the adiposity and genital infantilism. X-ray examination then revealed destruction of the body of the sphenoid and sella turcica, with preservation of the anterior clinoid processes, and von Eiselsberg operated for hypophyseal tumor, with resulting symptomatic improvement.

Under the term Fröhlich's syndrome are also to be included cases in which the symptoms are the result of a pituitary lesion other than a tumor, *e.g.,* one due to traumatism. But one well-authenticated case of this kind seems to have been reported, that of Madelung, in which the typical series of symptoms developed in a child that had been shot, the bullet lodging in the pituitary region.

The adiposogenital syndrome has frequently been noted in cases of tumor in the parahypophyseal region or even at a distance from this organ. Supporters of the pituitary theory ascribe the disturbances to indirect com-

* Summary of article in Paris médical, December 6, 1913.

pression of the hypophysis, sometimes merely through the production of hydrocephalus. Essential or idiopathic hydrocephalus, indeed, such as is observed in infants and children, has been held responsible by Marinesco, Golstein, and others, through the resulting pituitary disturbance, for adiposogenital phenomena where they accompany it.

There are some cases of adiposity and genital disturbance resembling Fröhlich's syndrome in their essential features in which hypophyseal or other clearly manifest brain lesions are absent. While evidences of brain pressure are not present, nervous disturbances of epileptic type are, nevertheless, rather commonly found. Radiography of the skull generally shows, instead of a much broadened sella turcica, as in Fröhlich's syndrome, a small sella with abnormal thickness of the sphenoid. These cases can at times be ascribed to a hypophyseal disturbance through the observation of more or less distinct accompanying signs of acromegaly. Gigantism itself, frequently associated with the obesity in these cases, would appear to favor the idea of pituitary causation. In other instances, however, the adiposogenital disturbance may be coupled with nanism and myxedema, this indicating an added thyroid disorder. Such observations have led some authors to describe an adiposogenital syndrome of pluriglandular origin. Careful study of cases shows, indeed, that even where the pituitary lesion is predominant, disease of other glands—gonads, thyroid, etc.—is frequent and plays a definite rôle.

In addition to cases such as those already referred to, there are numerous examples of children, especially at puberty, presenting a so-called essential obesity, developing spontaneously or after an infection, and in whom careful study of the symptoms elicits phenomena suggesting the adiposogenital syndrome. These are puffy, anemic children, with a "whitish" type of fatty deposition. Such a condition is frequent in female children at puberty, when it is associated with amenorrhea or dysmenorrhea. In the male child the genitals remain infantile and the hairy covering is late in appearing. Radiography of the sella turcica should be practised in such instances, and a reduction in the dimensions of this cavity will sometimes be found.

There is a tendency at present to consider Dercum's disease the result of a pituitary disturbance. This affection does, indeed, in a general way suggest the adiposogenital syndrome, and may likewise be accompanied by psychic disturbances, epilepsy, and changes in the sella. In a certain number of cases distinct lesions of the pituitary have been found. Weill reports the case of a child 9½ years old, with painful obesity, lack of genital development, and mental disturbances, all apparently the result of a tuberculous proclivity, but nevertheless markedly improved by combined pituitary and testicular treatment.

Pathogenesis and Experimental Data.—Crowe, Cushing, and Homans, experimenting on over 200 dogs, found that the animals which recover from hypophysectomy present disturbances analogous to those observed in man, rapidly becoming obese, showing disturbed cutaneous nutrition, sexual inactivity, atrophy of the genitals, profoundly disordered carbohydrate metabolism, and mental abnormalities. Where the animals used are young these

phenomena are the most pronounced, a widespread fatty deposit occurring not only beneath the skin, but in many organs, *e.g.*, the liver. Growth is, in addition, arrested. The obesity resulting from hypophysectomy—even in man—is not necessarily associated with an increase of body weight, as there occurs at times what amounts to a fatty degeneration of the entire organism, the specific gravity of the tissues being thereby lowered. Ascoli and Legnani noted this in dogs operated when very young. In the obese puppies hypothermia, mental irritability, transitory glycosuria, and more or less marked lesions of the other ductless glands are also found. In young bitches Aschner observed atrophy of the ovarian interstitial tissue, arrested development of the ova, acceleration of atresia of the Graafian follicles, atrophy of the uterus, and sterility. In adult bitches these changes are less marked. Young males generally show testicular atrophy after hypophysectomy; crytorchidism is frequent and spermatogenesis is reduced and atypical; the prostate and vasa deferentia remain small; sexual activity is delayed and fugacious, and atrophy of the interstitial glandular tissue is almost constant.

Ingestion or injection of pituitary extract was found by Borchardt and others to cause improvement in the dogs in which the adiposogenital syndrome had been experimentally established. According to Cushing and his coworkers, removal of the posterior lobe of the pituitary alone brings on this syndrome, and injection of extracts of this lobe yields benefit.

Both clinical and experimental observations indicate that pituitary lesions, while important, are not the sole factors in the syndrome referred to. A pluriglandular origin of the syndrome must frequently be granted. It is to be noted that in cases of tumor of the pineal body an adiposogenital syndrome is also described; here, however, with the obesity there is hypertrophy instead of atrophy of the reproductive organs.

In addition to tumors and trauma as causes of the pituitary adiposogenital syndrome, lesions of the hypophysis of inflammatory origin developing in the course of typhoid fever, scarlatina, diphtheria, syphilis, etc., can also occur. Furthermore, tuberculosis, by inducing fibrosis of the hypophysis (Thaon, Delille) and other glands, may also bring on obesity. Indications of manifest tuberculosis, or of a proclivity to it, can, in fact, often be elicited in the antecedents of many cases of infantile obesity.

Disturbances of Nutrition in Infantile Obesity of the Adiposogenital Type.—The increased tolerance to carbohydrates noted by Cushing and Goetsch was confirmed by the author in a number of cases of obesity. In one child 10 years old, whose father had died of diabetes and who weighed nearly 60 kilos., 250 Gm. (8 ounces) of glucose or saccharose could be ingested on six consecutive days without bringing on a positive Fehling test. In some cases of Borchardt and of Goetsch the carbohydrate tolerance was lowered from 100 to 50 by injection of extracts of the posterior lobe of the pituitary. This exaggerated carbohydrate tolerance is found also in obese cases of myxedema, and is similarly reduced by administration of iodothyrin. On the other hand, subnormal tolerance of carbohydrates is frequently noted in acromegaly and in exophthalmic goiter.

Relationship of Infantile Obesity to Diabetes.—In view of the above facts, fresh scrutiny of the subject of heredity in the case of obese children is in order. Obesity in the offspring of diabetic parents may appear early or late. It may appear so early that the fetus itself at times is so enlarged as to lead to dystocia (Fabre, Voron, Vondouris). Such fetuses, developing practically in a syrupy medium (hyperglycemia existing in the mother), may be said to be subjected to forced carbohydrate feeding *in utero*. Comparing diabetes with obesity from the standpoint of carbohydrate tolerance, one is struck by the fact that these two conditions occupy opposite positions in this respect. A diabetic mother, however, may give birth to an obese child presenting a high degree of tolerance for carbohydrates. Such tolerance may then be likened to a defensive process; but often, this tolerance gives way, sooner or later, and the obese individual, when grown up, may develop diabetes. It is, of course, not necessary that an obese child be the offspring of a diabetic parent to become diabetic at some future time. Examples in point are some cases of gouty obesity which the author has encountered.

According to Kisch, early inherited obesity tends almost irrevocably toward the development of diabetes when the subject has reached the age of 30 or 40. In late inherited obesity, however, diabetes appears at the age mentioned only in one-half the cases, while in acquired obesity it occurs only in 15 per cent. (this applies merely to the obese type of diabetes, the "thin" type, or infantile diabetes proper, not being taken into consideration). In cases of infantile obesity reaching an adult age carbohydrate intolerance should be carefully examined for from time to time by testing for alimentary glycosuria, and proper dietetic measures enjoined where the intolerance appears.

Diabetes mellitus is not the sole danger to which these dystrophic, obese children are exposed. The author has recently come across a case of early inherited obesity with increased carbohydrate tolerance in which diabetes insipidus rather suddenly developed. This patient, a little girl, showed, in fact, an incomplete adiposogenital syndrome, with disturbed menstruation and a small sella turcica. All the above facts, to be supported in future, it may be hoped, by many additional ones, tend to orient the pathogenesis of certain cases of obesity and of diabetes toward the study of glandular disorders, since certain glands (hypophysis and thyroid) appear capable of causing, according to whether they are in a state of increased or lowered functional activity, the opposite syndromes referred to.

Treatment.—Surgical treatment of certain cases of adiposogenital syndrome now seems warranted. In the hands of the best operators the mortality of intervention has been lowered to 16 per cent. (von Eiselsberg) and 10 per cent. (Cushing), and the results have been generally favorable, especially in cysts of the pituitary. In addition to relief of the neighborhood symptoms and signs of brain compression, as well as improvement of vision, the obesity has at times been diminished and the disturbances of the genital organs overcome.

Röntgen-ray treatment is said to have proved of some value, but results

are not constantly obtained, owing to insufficient penetrating power of the rays used. Operation and X-ray treatment act, according to some, by decompressing the posterior lobe of the pituitary.

Theoretically, if hypopituitarism exists, pituitary medication should be useful. The results thus obtained, however, have been contradictory, whatever mode of administering the gland be followed—ingestion of desiccated pituitary in doses of 0.1 to 0.3 Gm. (1½ to 4½ grains) a day for several weeks, injections of an extract of the posterior lobe, etc. Cushing's best results were obtained by ingestion or injection of extracts of fresh glands secured at the abattoir. The commercial extracts vary greatly in activity, and for practical purposes it seems best to administer, simultaneously or alternately, various ductless-gland preparations. Generally, pituitary and thyroid preparations should be given together, and ovarian or testicular extract added intermittently. Weill has recently employed a novel form of genital opotherapy consisting in the application of a double hernial band over the veins in the inguinal canals. Used in 2 cases of incomplete adiposogenital syndrome in boys, this measure was observed to cause hyperemia and enlargement of the testes, resulting in what might be termed an auto-opotherapeutic effect, a distinct improvement of the obesity following.

SYMPTOMATOLOGY OF EXOPHTHALMIC GOITER.*

By LEWELLYS F. BARKER, M.D.,

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The symptoms of Graves's disease are classified by the author as follows: (1) the struma; (2) signs due to heightened excitability of the vegetative nervous system; (3) symptoms indicating profound disturbances in metabolism; (4) signs depending upon secondary changes in other endocrine glands; (5) symptoms due to interference with the functions of the cerebrum, and (6) a peculiar blood-picture.

I. The Goiter or Struma.—This is, in the first place, a struma diffusa; in the second, a struma parenchymatosa, and in the third, a struma vasculosa. The great vascularity of the gland is recognizable by its visible and palpable pulsation. Its surface feels granular, owing to the hypertrophy of the individual lobules, and the consistence of the whole gland is increased. It is tender on pressure, differing in this respect from colloid goiter. There is marked hyperplasia of the parenchyma of the gland with disappearance of the colloid and an increase in the lymphatic tissue, and the interstitial connective tissue may also be present in larger amounts than normal, especially if the glands have been subjected to the Röntgen rays. In some instances the Basedowian change is limited to islets of gland tissue scattered through the gland or through one of its lobes. Even where apparently not enlarged

* Summary of article in the Southern Medical Journal, January, 1914.

when examined in the ordinary way, the thyroid is nearly always found slightly enlarged at operation and presenting the diffuse parenchymatous hyperplastic change referred to; in other cases it is not really enlarged, but shows insular hyperplasia, and in a third group the Basedowian change is not present in the thyroid itself, but affects one of the accessory thyroid glands, most often in the form of an intrathoracic struma. In a few cases the thyroid may be but little altered, but characteristic changes are found in the thymus gland.

II. Symptoms in the Domain of the Vegetative Nervous System.—The most important ocular signs are: (1) protrusion of the eyeballs; (2) widened lid-slits (Dalrymple); (3) dissociation between the movements of the eyeball and the upper lid (von Graefe); (4) insufficiency of convergence (Moebius); (5) infrequency and incompleteness of winking (Stelwag). Less important signs in the domain of the eye are (1) marked glistening; (2) swollen lids; (3) anisocoria; (4) adrenalin mydriasis (Loewi); (5) epiphora; (6) abnormally dry eyes; (7) pigmentation of the eyelids (Jellinek); (8) tremor of the closed eyelids (Rosenbach); (9) subjective feelings of heat or pain in the eyeballs.

In the domain of the heart and blood-vessels the most constant of all the signs is met with, viz., tachycardia. This is exaggerated more by emotional excitement than by physical exertion. In functional nervous cases for whom a rest cure has been prescribed, whenever the pulse rate stays continually above 80 when the patient is lying in bed, the author always suspects hyperthyroidism. Many patients with a pulse rate of 60 to 65 at the beginning show, after rest in bed and overfeeding, a tachycardia of 80 to 100, often thus unmasking a thyropathy which has been, in part, responsible for the nervous breakdown. Electrocardiographic curves in cases with outspoken tachycardia are indistinguishable from those of overactive heart caused by physical exercise. Among the other cardiovascular symptoms and signs are (1) subjective palpitation; (2) moderate dilatation of the heart; (3) accidental murmurs, especially at the base; (4) pulsating carotids and brachials; (5) alterations in blood-pressure (usually low, occasionally very high); (6) pulsus irregularis respiratorius; (7) vasomotor anomalies (erythemas, dermographismus, subjective feelings of heat); (8) in the late stages of the disease myocardial insufficiency.

The skin is usually thin, soft, and moist. Profuse sweating is common. The lessened resistance of the skin to the electric current (Vigouroux's sign) depends upon the overactivity of the sweat glands. The abnormal pigmentations of the skin sometimes seen, especially about the eyelids, nipples, and genitalia, are probably indirectly caused by disturbances of the chromaffin system. The finger-nails are usually long and tapering.

In the digestive apparatus symptoms due to abnormal autonomic innervation are common. The saliva may be overabundant, or it may be scanty. More serious for the patient are the attacks of vomiting, and especially of watery, painless diarrhea (4 to 8 to 30 stools per day). These symptoms may

cause rapid loss of weight, and are prone to occur suddenly and to stop just as suddenly. The diarrhea sometimes alternates with spastic constipation.

In the respiratory apparatus there may be shallow breathing (Bryson's sign), tachypnea, dyspnea, or even typical asthmatic attacks.

In the urogenital apparatus menstrual disturbances are common. Hypertrophy of the breasts is occasionally seen. An abnormally youthful appearance of the breasts in later life is not rare in Graves's disease. In men there may be disturbances of libido or potentia. In either sex hypoplasia of the genital organs is occasionally associated; and in such instances, there is not infrequently evidence of a general involvement of the endocrine glands (hyperthyroidism, hypogenitalism, hypohypophysism, status thymicolymphaticus, etc.). The urine may be increased or decreased in amount, and spontaneous glycosuria is not uncommon. In women a troublesome pollakiuria is not infrequent.

There are some patients (sympathicotonic) in whom the symptoms referable to the sympathetic proper predominate, and there are others (vagotonic) in whom those referable to the craniosacral or vagal autonomic system predominate. There is still a third group (mixed cases) in whom the symptoms may concern almost equally the two systems, and in these the mental symptoms are prone to be more severe. In the sympathicotonic cases the principal symptoms are (1) protrusio bulbi; (2) negative von Graefe; (3) positive Loewi; (4) positive Moebius; (5) dry eyeballs; (6) marked tachycardia; (7) dry skin; (8) constipation; (9) falling hair; (10) slight fever; (11) eosinopenia, and (12) alimentary glycosuria. In the predominantly vagotonic cases the symptoms include (1) relatively slight tachycardia; (2) marked subjective feelings of palpitation; (3) outspokenly positive von Graefe; (4) wide lidslits; (5) negative Moebius; (6) slight or absent protrusio bulbi; (7) epiphora; (8) sweats; (9) diarrheas; (10) gastric hyperacidity; (11) eosinophilia; (12) lymphocytosis; (13) pulsus irregularis respiratorius; (14) unlessened carbohydrate tolerance. In vagotonic cases many of the symptoms are favorably influenced by large doses of atropine.

III. Metabolic Disturbances.—A striking phenomenon of outspoken Graves's disease is the rapid loss of weight, even where the patients eat abundantly. Apparently, all metabolic processes are accelerated, including the total combustion (calories), and the protein, carbohydrate, fat, and mineral metabolism. A frail young woman thus afflicted lying in bed may use as much oxygen as a strong normal man at hard labor. An excess of phosphorus is often lost through the intestine, and the output of calcium in the feces is also increased.

IV. Symptoms Referable to Disturbance of Function in the Other Endocrine Glands.—Eppinger, Falta, and Rudinger believe that hyperthyroidism is accompanied by insufficiency of the internal secretion of the pancreas and increased activity of the chromaffin system (adrenals), and that hypothyroidism will be followed by overfunction of the pancreas and diminution of adrenal activity. If this view be correct, the adrenalin mydriasis and the spontaneous as well as the adrenalin glycosuria so common in Graves's disease can be readily explained. There are many difficulties in the way, however, of

the assumption of a constant relation of this sort. It is not easy to regard the pigmentations of the skin so common in Graves's disease as due to a hyperchromaffinosis. The whole subject is at present in a complex tangle.

Many patients suffering from Graves's disease are also thymus carriers. Capelle and Bayer suggest that variations in the kinds of proliferation in the thyroid and in the thymus account for the manifold types of Graves's disease clinically met with. In general, the thyroid effect is, they believe, predominantly sympathicotonic, while the thymus effect is predominantly vagotonic. Hart has suggested the possibility of a Graves disease due to primary disease of the thymus.

V. Cerebral Symptoms.—There is commonly a kind of apprehensiveness and anxiety, often with phobia and obsessions. Insomnia is usually prominent. In a few cases the mental symptoms increase to an outspoken psychosis. It may be that the fine tremor of the fingers is of cerebral origin.

VI. The Blood.—Usually there is a slight leukopenia, and often an increase in the lymphocytes (35 to 60 per cent. of the count). When such an outspoken lymphocytosis exists, the possibility of an associated hyperplasia of the thymus should be kept in mind.

SERUM TREATMENT OF EXOPHTHALMIC GOITER.*

By S. P. BEEBE, M.D.,

NEW YORK, N. Y.

The iodine content of the gland varies under different conditions in exophthalmic goiter. It is, as a rule, somewhat lower than in the normal gland; on the other hand, it may be higher. The author has analyzed glands that contained no detectable colloid, and yet they contained as much iodine as is contained in a normal gland. This was probably because of the fact that these patients had been given iodine prior to their deaths. It is this iodized protein, which is found to a considerable extent in the colloid—it is probably to be found to some extent in the living cells themselves if there is no colloid—that gets into the circulation in excessive quantities and causes the symptoms of exophthalmic goiter. Stimulation of the nerve of the thyroid gland causes a discharge of this iodized substance from the thyroid. It is not known whether it goes out through the lymph or the blood, but it must go through one of these channels. Stimulation is so important a factor that a stimulation of three hours may cause a reduction of 30 to 50 per cent. of the one lobe stimulated.

The antigen used for the preparation of the author's serum is obtained from the human thyroid. Whether or not there is any considerable advantage in using material from an exophthalmic gland over that from a normal gland,

* Summary of article in the Post-Graduate, February, 1914.

he is unable to say. In preparing the serum sheep are now largely used. The animals are inoculated subcutaneously from the human gland, the product introduced being prepared with care and injected in a sterile condition. It requires six to eight weeks' treatment before the animals are ready to be bled for the supply of serum. It has been found undesirable to carry on the process for more than 3 to 4 bleedings, as the animal plays out and does not form so active a serum as in the beginning (the same has been observed with other processes of immunization). The serum is not all of the same degree of antibody-content, varying somewhat with the animal, but the methods at present used permit of preparing a serum with a selected animal that is efficacious.

Up to the present time nearly 3000 patients have been treated with serum for a sufficient length of time—not all of them under the best conditions—to afford a fairly reliable idea as to how much may be expected from the serum as part of the medical treatment. The author emphasizes the fact that whoever plans to use the serum as the only means of treatment will have some degree of success, but a considerable degree of failure. The other appropriate medical measures form a very important part of the treatment. Fifty per cent. of the patients treated with serum are able to do everything that work, business, or pleasure requires without any distress or untoward indication except possibly a remaining slight exophthalmos or, in some instances, a slight enlargement of the gland. Thirty per cent. of the patients are very much better than before, and others, somewhat better than before. There have been 3 per cent. of deaths.

The treatment needs a considerable length of time. As an example of the results in a mild case the author cites that of a young woman 21 years of age who had an enlarged gland, dilated heart, edema of the ankles, pain in the heart, mild exophthalmos, and considerable gastric disturbance. Treatment was continued for two months, during which period she received 20 injections. Care with regard to her activity was maintained for a period of four months longer. At the end of that time there remained no trace of the disorder. If she had gone originally to almost any surgeon, a lobe and a half of the gland would have been removed.

Another case was that of a woman of 26 who had had the disease in a mild way for three years before a severe attack began. She had lost a great deal of weight and was very weak, but was able to get around and eat a little; occasionally sleepless; pulse 135 to 150, depending on excitement or activity; brownish pigmentation about the neck and shoulders; had lost a great deal of hair; was excessively nervous, breaking down and weeping, and imagining all sorts of things would happen to her. Treated with serum for six months, she was relieved for one month, and the treatment was then begun again and continued for two and a half months. She had then gained 45 pounds; had a pulse between 75 and 85, regular, and of good quality, and the brownish pigmentation had disappeared. Under excitement, she would flush a little occasionally.

A third patient was greatly emaciated; could not retain any food; pulse from 130 to 180—sometimes 200; marked intestinal disturbance,—all in spite of excellent medical attention. She was running a temperature of 99.5° to 100° F., and was delirious at times. After two weeks of serum treatment she began to improve slowly; on the first night it was given she slept comfortably and quietly for the first time without hypnotics in three or four weeks. She was treated with serum for a year and a half, and is now in good condition.

Not every case treated with serum recovers, however, and sometimes it is necessary to operate. Sometimes there is a factor in the patient's own blood which does not allow the serum to act. Nevertheless, this is a therapeutic measure which cannot be ignored in the treatment of the disease.

OCULAR DISTURBANCES OF HYPOPHYSEAL DISEASE.*

By ARNOLD KNAPP, M.D.,

NEW YORK, N. Y.

The posteroinferior surface of the optic chiasm does not lie in the optic sulcus, but on the anterior part of the tent of the hypophysis, immediately anterior to the infundibulum. The ocular symptoms of hypophyseal disease are the result of direct pressure by the tumor on the basal visual paths and on the motor nerves of the eye. As the hypophysis grows in size it enlarges the sella in all directions, in extending upward generally enlarges the infundibular hole, and, like the tumors arising in the infundibulum, presses upon the ventral surface of the chiasm; the visual fibers which cross in the middle are first pressed upon, producing characteristic disturbances. According to Henschen, the typical course of the visual disturbances is as follows: Pressure upward on the ventral macular crossing fibers produces small macular or perimacular bitemporal scotomata; then pressure on the crossing ventral peripheric fibers results in bitemporal quadrant hemianopsia. Additional pressure then involves the uncrossed fibers, and one eye is blind with temporal hemianopsia in the other, or both eyes are blind. Sometimes the color fields are first involved, especially in the upper temporal quadrant. In general, however, the development of the field defect is irregular and not as already stated. If pressure is not exerted on the posterior surface of the chiasm unusual combinations of visual disturbance may result from the enlargement of the pituitary tumor taking place anterior to the chiasm and then invading the orbit.

Temporal hemianopsia occurs so often in pituitary disease—in nearly 50 per cent., according to Uhthoff—that it has long been considered one of the characteristic symptoms. The hemianopsia, however, is not symmetric, but is irregular, with uneven limits. According to Cushing, the primary defect usually first involves the color boundaries alone in one upper temporal

* Summary of article in the New York State Journal of Medicine, September, 1913.

quadrant. This is followed by a more or less complete temporal hemiachromatopsia, possibly with a "slant" in the upper temporal form field, which gradually spreads downward until most of the temporal field is involved. The nasal field in turn shrinks away from the center as the blind field enlarges, though the process seems for a time to be arrested at the macular area. The process in the two eyes may be so unequal that, while one eye is blind, there is but little defect in the field of the other eye.

Homonymous hemianopsia, according to Uhthoff, is very unusual. Cushing, on the other hand, finds that homonymous defects or tendencies in this direction are at least half as frequent as bitemporal ones.

Scotomata, usually paracentral in location, have been frequently described. They may precede the temporal hemianopsia, or be observed on the disappearance of the hemianopsia after operation. It is difficult to explain their formation, unless by peripheric pressure on the chiasm. Concentric contraction of the field has been rarely observed.

The *course* of the visual disturbances is usually slowly progressive. An intercurrent hemorrhage or edema, or suddenly increased size of a cyst, may cause a sudden aggravation of the symptoms. On the other hand, the onset may be sudden and severe, with blindness, followed by partial clearing up of the condition. Daily variations in the field defects have been noted.

Among *ophthalmoscopic changes,* simple optic atrophy is the most frequent, and was present in 20 per cent. of the cases collected by Uhthoff. Choked disc, optic neuritis, and neuritic atrophy are only about one-half as frequent. According to Cushing, a choked disc may become superimposed on the atrophic nerve head from the internal hydrocephalus complicating the pituitary tumor.

The *ocular muscles* are implicated in between 10 and 25 per cent. of cases (Uhthoff). The changes are nearly always oculomotor pareses, often in the form of ptosis. Complete and bilateral oculomotor paralyses are uncommon. Paralysis of the abducens is very unusual. Nystagmus, changes in pupillary action, and exophthalmos have been observed in varying frequency; they are of no particular diagnostic importance.

THE INFLUENCE OF THE THYROID GLAND UPON BLOOD-PRESSURE.*

By H. EWAN WALLER, M.R.C.S., L.R.C.P.,

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While blood-pressure experiments with thyroid extracts have shown a fall of pressure, this fall, as exhibited in tracings, has been extremely transient, the previous level being usually regained in less than a minute. Upon clinical evidence the author maintains that the ultimate effect of thyroid activity *in situ* is to raise the blood-pressure, and, further, that the same result is

* Summary of article in the Practitioner, May, 1913.

produced by the administration of thyroid extract. In myxedema, *e.g.*, the blood-pressure is usually low, whereas in Graves's disease it is usually high. The earlier the case of Graves's disease, the higher the blood-pressure. When the disease has become severe or lasted any length of time, the heart naturally suffers; but even in these cases, oftener than not, the heart muscle is strong enough to maintain a pressure above the normal. The thyrotoxic heart is characterized by undue frequency, a diffuse apex beat, an enlarged left ventricle, and a rise in blood-pressure, and it is difficult to see how this could be the case if the effect of thyroid activity were to lower blood-pressure. Again, the resemblance between the menopause and Graves's disease is striking as regards the flushing, sensation of heat, sweats, nervousness, palpitation, and high blood-pressure. The latter is not infrequently responsible for definite cardiac trouble and occasionally for apoplexy at this period. Estimating the blood-pressure on several occasions during a "flush," the author found it as high as 250 mm. Blair Bell makes definite reference to the "thyroid gland, which is responsible for the rapid vasomotor changes" at this epoch. Admitting special thyroid activity in Graves's disease and at the menopause, conditions usually associated with high blood-pressure, one is in a position to state that thyroid activity certainly cannot be an effective reducer of blood-pressure, unless, indeed, by damaging the heart.

The author has noticed in many cases that the blood-pressure rises when thyroid extract is given, and has learned to watch for this result very carefully when the drug is administered, either continuously or in large doses. There is danger of causing cardiac dilatation by raising the blood-pressure to a point incompatible with the musculature of the heart in an anemic, feeble, or, perhaps, obese individual. As illustrative cases the author cites, among others, the following:—

A girl aged 19 was treated with thyroid extract for a stubborn skin affection. She was athletic, and had a sound heart. The dose given was 1 grain thrice daily with 5 minims of syrupus ferri iodidi, and the dose of thyroid was gradually doubled. This treatment was carried out for one month, and then left off. The blood-pressure was 125 mm. on the first day of treatment, and the subsequent readings were 135, 155, 180, and 145 mm., respectively. The sudden drop at the end after reaching the high level of 180 is again very suggestive of heart strain.

An obese, dull-witted girl of 16, with considerable thyroid enlargement, was treated for over two months with thyroid extract, commencing with 1 grain thrice daily, the dose being gradually increased to 2½ grains twice a day. Five minims of syrup of iodide of iron were given with each dose, part of the time. The blood-pressure at the beginning was 110 mm. Subsequent readings were 125, 130, 135, 135, and 150 mm. Treatment was then changed on account of the blood-pressure. She complained of feeling faint several times, and actually fainted twice between the two records of 135 mm.

A girl of 18 was subject to "dead" fingers. The heart appeared to be normal, but blood-pressure was only 60 mm. Subsequent readings on a short course of thyroid extract were 70 and 95 mm. She was seen again five months later and blood-pressure was 100 mm. The prescription was repeated, and six days later the blood-pressure was 110, and in yet another week 125 mm.

It is apparent that the thyroid does not contain in itself any substance comparable with pituitrin or epinephrin in its *immediate* physiologic effects, or the fact would long ago have been demonstrated with certainty by physiologic experiment. Farini and Vidoni, nevertheless, found that during artificial circulation of thyroid extract through the posterior extremities of cats and rabbits the effect was vasoconstrictor, never vasodilator.

In conclusion, the author suggests that thyroid treatment is a useful means of stimulating the general circulation and raising the blood-pressure, provided the heart is strong enough to stand the increased work. A careful watch must be kept on the pulse rate and blood-pressure for indications of heart fatigue. Where the heart is weak, or debilitated after acute illness, one must be especially cautious.

EXPERIMENTAL STUDIES IN TETANY.*

By W. G. MacCALLUM, M.D., and KARL M. VOGEL, M.D.,
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The authors report experiments made for the purpose of determining in what particular blood is altered during tetany so as to produce hyperexcitability of the motor nerves. As a working hypothesis it was assumed that (1) there may be a lack of calcium in the blood and tissues; (2) there may be a circulating poison which, like an oxalate, could render inactive the circulating calcium, and (3) there may be a substance in circulation vaguely resembling strychnine in its action upon the nervous system and directly causing the hyperexcitability. It is impossible to decide with present knowledge which, if any, of these explanations is the true one, but certain experimental results are brought forward by the authors.

If tetany blood be used to perfuse a normal leg the excitability of the nerves rises to a characteristically high level, and the addition of parathyroid extract to the blood has little or no effect in lowering this excitability.

Parathyroid extract, whether from the ox or the dog, fails when injected into the circulation of an animal in tetany to reduce the excitability of the nerves markedly or permanently, although it seems to affect the more sensitive ganglion cells, thus cutting off excessive impulses to the periphery. Although the nerves remain hyperexcitable, tetany is usually much diminished or abolished entirely. This seems to be analogous to the action of ether or any other anesthetic, which may inhibit the activities of the ganglion cells although it leaves the nerves excitable and able to conduct impulses. An animal in tetany relaxes instantly on being given ether although the excitability of the nerves to electric currents is little changed.

Bleeding followed by the replacement of the blood with an indifferent solution free from calcium stops tetany and lowers the excitability of the

* Summary of article in the Journal of Experimental Medicine, December, 1913.

nerves. Probably this cannot be ascribed to the removal of a circulating poison, but rather to a general disturbance of the nutrition of the nervous system.

Oxalate-like substances introduced into the circulation rapidly, and for a short time only, may kill the animal, but they seem to produce no change in the excitability of the nerves. If the solution is injected very slowly and over a long period the protective action of the body seems to be overcome and the excitability of the nerves rises to high levels. This seems to resemble somewhat the latent period after the destruction of the parathyroids before tetany begins.

Direct analysis of the blood shows that, as compared with the normal, the blood of an animal in tetany is very poor in calcium. Administration of parathyroid extract does not increase this calcium content. On the contrary, if the extirpation of the parathyroids has been incomplete, so that tetany does not appear, the calcium content of the blood is that of the normal animal.

Thus, in spite of efforts to shake it, the theory that tetany is closely dependent upon a disturbance of the calcium content of the blood is supported by stronger evidence than any other, but much remains to be done before a clear conception of the process is reached.

Abstracts from Current Literature on the Internal Secretions

A Manifestation of Hypothyrosis in the Lower Urinary Tract.—In every one of 4 cases of hypothyroidism with urinary symptoms which the author examined cystoscopically, anatomic alterations of apparent hypothyrogenous origin could be demonstrated. It is known that in hypothyrosis the mucous membranes of the tongue, uvula, and nose may exhibit a doughy, edematous swelling. Such alterations were found in the bladder or urethra in the 4 cases mentioned. That they were entirely dependent upon the hypothyroid state was evidenced by their decline and increase in accordance with the fall and rise of the other hypothyroid phenomena on the exhibition or withdrawal of thyroid preparations.

In Case I, that of a woman 38 years old, there were the edematous infiltrations of the face, the swollen nose and lips, and especially the doughy pads around the much-infiltrated eyelids, typical of myxedema. The skin felt thick, perspiration was almost entirely suppressed, and there were headaches, depression, and apathy. For involuntary urinary escape topical treatment had been given. On examination the walls of the urethra were seen not to lie in apposition, but about 2 cm. inward; the cystoscope became slightly impacted, which is unusual in the readily dilatable female urethra. The introduction of the instrument caused some irritation along the next 3 cm. of the narrowed urethral canal.

There occurred a slight oozing of blood. The cystoscope showed in the place of the longitudinal fold on the floor of the urethra a baggy, edematous thickening extending well into the bladder. The infiltrated portion appeared somewhat paler than the surrounding tissues. The thickened, puffy mucosa along the floor of the urethra seemingly kept ajar the walls of the meatus, and thus the dripping of the urine can be explained. Administration of 15 grains (1 Gm.) of thyroid extract daily in divided doses in the beginning brought about cessation of the hypothyroid phenomena, including the urinary dripping, in an incredibly short time. The patient continues the thyroid extract in daily doses of 5 grains (0.3 Gm.). Reexamination made two months after institution of this treatment showed entire absence of the anomalous condition in the urethra.

Case II was one of adiposis dolorosa with myxedematous manifestations and was also of interest because of the synchronous abatement of the symptoms of both affections, including redundancy of the vesical mucosa, after thyroid medication and a general antiobesity treatment. The patient was a woman 47 years old.

Case III, that of an unmarried woman 22 years old, was classified by the author as one of "hypothyrotic constitution" in the sense of Wieland. These are cases of embryonic glandular hypoplasia of the thyroid in which the hypothyrotic phenomena *per se* are usually more or less obliterated, but in which infective or traumatic injuries, no matter how slight, may occasion most acute manifestations of hypothyroidism. At the same time the patient exhibited a number of symptoms that pointed to constitutional lymphatism. The latter and the hypothyrotic constitution, in the author's experience, are not infrequently correlated.

The patient was small of stature and very obese, soft, uneven fat pads being distributed over various regions of the body. The Schneiderian membrane exhibited a more or less constant edematous character, and the same was the case with the mucosa of the soft palate and also, from time to time, with the uvula. There was a marked anteflexion of the uterus, which was in extreme retroposition, and a fetid vaginal discharge. Besides attacks of hysteria and periods of melancholia, loss of energy, and decline of memory, the principal complaint was frequent urination, strangury, and vesical tenesmus. Thirty bladder irrigations had only tended to aggravate the vesical irritation. The local examination showed a congested and swollen meatus, a rather short urethra with very little contractile power, and what appeared to be a uniform edematous infiltration of the trigonal mucosa directly behind the orifice of the urethra. The patient was operated upon for her uterine condition, but five weeks later still complained of strangury and vesical tenesmus. Administration of thyroid and ovarian substances was followed by complete restoration; her psychic symptoms and urinary difficulty entirely vanished.

Case IV, a man 51 years old, referred on account of supposed kidney disease, showed myxedematous swellings of the eyelids and over the

clavicles, bladder irritation and frequent micturition, pronounced apathy and mental depression, and various other phenomena. The cystoscope showed a normal prostate, but an apparently quite hard edematous swelling, with no recognizable blood-vessels, in the area of the trigone. The urine showed nothing of import. The bladder condition yielded readily to thyroid substance, and the other physical manifestations of hypothyrosis declined to a greater or less degree.

Enuresis in children as well as in adults may be of hypothyrotic or kindred origin, and the cures of such cases after the administration of thyroid substance may be due to the disappearance of myxedematous swellings from the lower urinary tract. In persistent bed-wetting a cystoscopic investigation should be insisted on. Heinrich Stern (Archives of Diagnosis, October, 1913).

* * *

Cyst of the Hypophysis with Infantilism of the Lorain Type.—The patient concerning whom the authors write is a male aged 22 years. At about the tenth year it was noticed that he was not growing normally. He had suffered from enuresis, which ceased at his eleventh year. He also began to complain of headaches, which were so severe that they prevented him from playing with other children, and even kept him awake at nights. His eyes watered considerably, and when he was 13 years old it was discovered that his sight was so poor that he could not read the blackboard at school. Since then his eyesight has been gradually getting worse, so that now he is practically blind. His headaches have continued, and are dull and frontal in character. His physical development has been greatly retarded. He is very irritable. There has never been any indication of sexual power. He has never shaved. Appetite is poor. Bowels are constipated. No polyuria. Some polydipsia.

The patient is 137 cm. (4½ feet) tall and weighs 66 pounds. He is somewhat pale and sallow, and his skin is dry. There is a moderate adiposity. The mentality is sluggish, but the patient is not unintelligent nor illogical. The hair on his head is normal, but the patient has not the trace of a beard nor moustache, and no pubic nor axillary hair. The thyroid is small. The right eye is totally blind. With the left eye the patient can count fingers at one foot. The visual field, however, is much contracted, the temporal half being entirely absent. The hands and feet are small and delicately formed. The pisiform bones are missing and there are no sesamoid bones. The epiphyses of the phalanges, metacarpals, radius, and ulna are just beginning to unite. The penis is small, and the testicles, though present in the scrotum, are exceedingly undeveloped, measuring about 1 cm. in their long diameter. Temperature, 99°; pulse, 112, soft and regular; respiration, 24. Blood-pressure, 70 mm. of mercury. Urine: 1260 c.c., acid; amber; clear; specific gravity, 1.022; no protein; no sugar. The carbohydrate tolerance is greatly increased, the patient taking as much as 400 Gm. of glucose without sugar appearing in the urine.

The Wassermann reaction is negative.

X-ray examination of the skull shows an erosion of the dorsum of the sella turcica and of the posterior clinoid processes.

The arrest of body growth and sexual development, with the moderate adiposity, stamp this case as a typical example of the Fröhlich typus or the so-called dystrophia adiposogenitalis of Bartels. The glandular symptoms are, in the main, due to a deficiency of the anterior lobe of the pituitary gland, although it is evident that the posterior lobe function is also diminished, as indicated by the high carbohydrate tolerance and the unusually low blood-pressure.

In the hope of improving the eyesight and avoiding the threatened total blindness, and incidentally relieving the headaches, operation was decided upon. By Knavel's infranasal sublabial transsphenoidal approach the anterior wall of the sphenoidal sinus was exposed and removed. As soon as the sinus was opened there was a gush of about an ounce of turbid serous fluid—obviously the contents of a cyst, which had eroded the posterior wall of the cell. The cavity was packed with two small iodoform tampons, one of which was led out through each nostril, and the sublabial incision sutured with silk. There were irregular rises and falls of temperature from 103.5° to 100° for nine weeks following the operation. The patient was drowsy, slept most of the time, ate very little, vomited frequently, complained of headache, looked pale, and began to show edema of the face, hands, and feet. In spite of constant irrigation of the nasal cavities there was profuse purulent discharge, especially from the right side. Finally, these conditions ceased, and the patient made a rapid recovery.

The patient now looks well and has gained 10 pounds in weight. His headaches are entirely gone and he sleeps through the night, something that he has not done in many years. His appetite is excellent, the bowels more regular, and he is much more talkative. He has entirely lost his irritability. He is able to walk alone on the street, and insists that he sees his way. The X-ray of the hand shows exactly the same condition as before. The patient has been put on desiccated pituitary substance (anterior lobe), 2 grains, three times a day, after meals.

During six days on a standard diet, this patient showed a slight retention of nitrogen, while the absorption of fat and protein was normal in degree. There was noted, however, a marked perversion of some metabolic process leading to high and abnormal percentages of the neutral sulphur and undetermined nitrogen of the urine. DeWitt Stetten and Jacob Rosenbloom (American Journal of the Medical Sciences, November, 1913).

* * *

Value of Pituitrin in Surgical Shock.—The author noted a marked effect upon the blood-pressure in patients to whom this product was given before they left the operating table. In an illustrative case, at the beginning of the operation the blood-pressure was about 105 mm. Hg, but

dropped to 80 a short time after the abdomen was opened, and held approximately at this point throughout the operation. After the first injection of pituitrin in this case, before closure of the wound, the blood-pressure increased to 85 and then to 90 within a short time. At this point a second injection of 10 minims was given, and forty-five minutes later the pressure registered 110. The pulse rate dropped in proportion to the increase in blood-pressure. No evidence of shock was noted although the operation had been rather protracted.

All the author's patients, before leaving the operating room, receive pituitrin, 15 minims, hypodermically. After recovery from anesthesia, the following measures are used: (1) Fowler position—fifteen inches of elevation of head of bed. (2) Enteroclysis, using glass nozzle with two or more openings. (3) Hypodermics of pituitrin, 15 minims every three hours for 4 doses. (4) Ice caps to the abdomen. (5) Sips of hot water and hot tea; no cracked ice or cold water for the first twelve hours. (6) Hypodermics of morphine, $\frac{1}{6}$ grain, and physostigmine, $\frac{1}{75}$ grain, for pain or restlessness, to be repeated in three hours if necessary. (7) If blood-pressure is below normal, continuation of pituitrin and addition of hypodermics of camphorated oil, 2 grains every three hours. (8) Catheterization, if necessary, only every eight hours. (9) Water, coffee, tea, orange juice, meat juice, and broths may be given before first bowel movement, after which milk and soft diet may be allowed.

In 800 abdominal operations in which pituitrin was used, the author did not in any instance witness a symptom of shock except in two or three cases, in which a condition simulating "heart exhaustion" was noted. Whether or not this apparent exhaustion was due to overstimulation is a question; many other factors may have been responsible. The symptoms were only transient, the patient responding to stimulation after the administration of pituitrin was discontinued, and in each instance making an uneventful recovery. The writer confirms the experience of others that pituitrin effectually removes gas from the alimentary tract and increases peristalsis. C. A. Hill (Boston Medical and Surgical Journal, May 15, 1913).

* * *

Ovarian Therapy in Pulmonary Tuberculosis.—The author refers to the well-known prejudicial influence of the menstrual periods on the pulmonary condition in women suffering from tuberculosis. The exacerbations, with fever and sometimes hemoptysis, noted at these periods, may occur either where there is dysmenorrhea or menorrhagia, where menstruation is temporarily suppressed, or where no menstrual disturbance whatever exists.

The author has found that the administration of dried ovarian substance to these patients is sometimes remarkably beneficial. He reports ten in which ovarian treatment, besides more or less promptly inducing regularity of menstruation where it had been irregular, caused complete disappearance of febrile reaction and hemoptysis at the periods, and even

brought the tuberculous process in general, previously progressing unfavorably, to a standstill. In but few cases other than those of this series did ovarian treatment not yield some measure of benefit, and in none did it produce any harmful effects. The author points out that Wittgenstein showed in animals that ovarian medication caused a longer survival after infection with the tubercle bacillus, and, in view of his own clinical observations, believes the drug deserving of recognition as a valuable symptomatic remedy in this disease.

The initial dose of dried ovarian substance prescribed by the author is 0.2 to 0.5 Gm. (3 to 7½ grains) daily, continued for a month. Thereafter the patients take the remedy only during the eight or ten days preceding menstruation. In cases with hemoptysis, however, it is best to continue the drug in smaller doses throughout the menstrual period. As for the total duration of treatment, no definite law can be established. As a rule, where the untoward phenomena have not recurred for two or three months the medication can be discontinued, to be resumed later if necessary. If the general antituberculous action of the remedy is to be utilized, the latter will, of course, have to be continued a long time—a year, or even longer. Jaquerod (Revue médicale de la Suisse romande, May, 1913).

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Changes in the Hypophysis Cerebri in Diphtheria.—The favorable results obtained with pituitrin in the treatment of low blood-pressure in diphtheria led the authors to an investigation of the question whether the pituitary might not be the seat of an invasion by the infection, such as has been found to occur at times in the adrenals. The hypophysis was removed from 9 children that had succumbed to diphtheria, and attention was specially paid to the condition of the pars intermedia, considered by many authors the secreting portion of the organ. In *all* cases there was found marked degeneration of the epithelial cells, involving both the protoplasm and nucleus, and extending even to complete loss of cellular structure—the condition as a whole necessarily implying a more or less complete suspension of the secretory function. Examination of the pituitaries of children that had died of other affections—whooping-cough, measles, bronchopneumonia, etc.—in no instance yielded the same pathologic findings.

Experiments in animals were then performed, the authors injecting subcutaneously or intraperitoneally in 12 guinea-pigs 1 to 2 c.c. of an emulsion of diphtheria bacilli in pure twenty-four-hour culture. All the pigs died at the end of forty-eight hours, and here again notable changes were found in the pars intermedia of the hypophysis, while the changes were not seen in the pituitaries of pigs succumbing to an injection of *B. pyocyaneus*. The authors conclude, without denying a direct action of the diphtheria toxin on the circulatory system, that it is very probable that the paralytic phenomena witnessed in respect of the vessels and heart in the course of diphtheria are secondary to a profound change in

the hypophysis, and that the use of pituitrin, as well as epinephrin, is therefore indicated in these cases, the two remedies mentioned constituting, so to say, a specific treatment for the symptom (low pressure) against which they are employed. The circulation frequently fails in diphtheria before there are any clinical signs of cardiac change, and at autopsy the heart lesions are often insufficient to account for the low blood-pressure observed during life. Creutzfeldt and Koch (Virchow's Archiv, ccxiii, 1, 1913; Paris médical, January 31, 1914).

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Parasitic Thyroiditis.—The author refers to a disease first described by Chagas, of Rio de Janeiro, and which is frequently encountered in the State of Minas Geraes, in Brazil. The disease is caused by the flagellate organism, *Schizotrypanum cruzi,* a protozoön found during the examination of the intestinal contents of a blood-sucking, hemipterous insect, *Conorrhinus megistus.* The latter sucks blood and transmits the infection in all three of its (the insect's) stages: larva, nympha, and imago. Chagas produced the disease experimentally in the parrot, guinea-pig, rabbit, and dog, and soon found the organism now called Schizotrypanum in the peripheral blood of persons in a dwelling infested with the Conorrhinus. The parasites multiply in the intestinal contents of the insect, remaining alive a long time, and being sometimes found in the excrement. When the contents of the salivary glands in the insects are examined in the fresh state, flagellated organisms are found in active motion.

The Schizotrypanosoma, as found in the human peripheral circulation, presents two phases, an intracellular and an extracellular. The former occurs in the beginning of the infection. The microscopic diagnosis of the disease is very simple in acute cases, a multitude of flagellated parasites being found in the fresh blood. In chronic cases it is necessary to centrifugate the blood, or even to inoculate a guinea-pig. Clinically, parasitic thyroiditis in human beings presents two forms, acute and chronic. In the acute form there are cases in which nervous symptoms predominate, simulating meningoencephalitis. These cases are almost always fatal. This form is found chiefly in infancy, mostly in the first year of life. The acute attack lasts from ten to thirty days, ending either in death or passing into the chronic form. The symptomatology of the acute form absolutely differentiates the disease from all others. The pathognomonic symptoms are: Continued fever, with flagellated organisms in the peripheral blood; face swollen, and with a characteristic expression; constant hypertrophy of the thyroid gland; crepitating sensation on pinching the skin of the face, showing that there is infiltration of the subcutaneous tissue with mucoid substance; generalized enlargement of the lymphatic glands, especially in the neck; enlargement of the liver, which is never absent, and sometimes, also, enlargement of the spleen. The chronic cases are divided into the following varieties: (1) pseudomyxedematous form; (2) myxedematous form; (3) cardiac form; (4) nervous form, and (5) chronic form with acute exacerbations. Felix Veintemillas (Revista de Bacteriologia é Hygiene, No. 19, 1913).

Thyroid Origin of Hemorrhagic Uterine Disease.—In excessive thyroid functioning the coagulability of the blood is much reduced, while in insufficient functioning the coagulation time is much shortened. These effects throw light on certain cases of hemorrhagic uterine disturbances, suggesting that they are abortive forms of myxedema. Among 20 pure cases of hemorrhagic uterine disturbance the author found in 13 of the patients pronounced signs of thyroid hypofunctioning, and in all but one the coagulation time was from four to eight minutes in contrast to the nine or ten minutes with normal blood. The viscosity was frequently below normal—in a number only half of the normal figure. The author supports the view that thyroid insufficiency is a prominent factor in tetany in pregnancy, and possibly also in eclampsia. It is possible that all these conditions are different stages of the same disturbance in thyroid functioning. In any event, the condition of the thyroid should be ascertained in all cases of eclampsia, and this is easily done by examination of the blood, abnormally rapid coagulation testifying to a lack of the normal thyroid secretion. One of his cases was peculiarly instructive: A young woman with hemorrhagic uterine disturbance had borne twins three years before and had had severe eclampsia at that time; at recent examination the coagulation time was reduced to five minutes, and with a relative neutrophile leucopenia of 45 per cent. there was a lymphocytosis of 48 per cent. (in contrast to the normal 20 to 25 per cent.). It is possible also, he remarks, that the thyroid may be involved in the tendency to habitual abortion. Cases have been reported in which women with goiter who had been married for several years without conceiving bore children after thyroid treatment. Cretin mothers are liable to habitual abortion for a time, but finally bear living children. The habitual abortions of women with infantile uterus suggest that the thyroid may here likewise be in an infantile condition. It seems to be established now beyond question that syphilis is not responsible for all cases of habitual abortion. E. Sehrt (Münchener medizinische Wochenschrift, May 6, 1913).

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Nystagmic Tremor in Exophthalmic Goiter.—Of 46 cases of typical exophthalmic goiter, 22 were observed to show a nystagmic tremor. In 2 instances the nystagmus was spontaneous, and had appeared at the same time as the disease. In the other 20 it was apparent only when the eyes were strongly turned to the side. It consists of a series of rapid lateral oscillations of small amplitude, which cease as soon as forward vision is resumed. In 1 case, however, there were distinct oscillations with the eyes directed forward. In another the nystagmic displacements were very sudden and sharp, and in still another they were slow and exhibited a sort of pendulum-like rhythm. In 1 case the nystagmus was exactly vertical, and appeared when the patient caused the optic axes to converge. The nystagmus was found quite unrelated to exophthalmos, in the sense that it might coexist as well with a slight protrusion of the

eyeballs as with an extreme exophthalmos. Nor did it seem to present any distinct relation to other ocular signs, *e.g.,* those of von Graefe, Moebius, and Stellwag. The nystagmic tremor diminished or disappeared, however, along with improvement in the other symptoms and especially the general tremor.

As to the origin of the nystagmus, the author does not believe it due to muscular paresis, but rather to be a manifestation of hyperthyroidism itself, the thyroid product exerting, perhaps, a stimulating action upon the pontobulbar nystagmogenic zone. This theory seems all the more sound in view of the fact that the nystagmic tremor shows variations corresponding with the disease itself, *i.e.,* it appears closely allied with the general tremor. At any rate, the nystagmus deserves a place among the ocular signs of Basedow's disease, with von Graefe's sign. It seems even to occur with greater frequency than the latter, and its detection clinically is an easy matter. Paul Sainton (Bulletins et Mémoires de la Société médicale des Hôpitaux de Paris, July 24, 1913).

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Iodine in the Diet and its Rôle in Thyroid Disorders.—The iodine content of the thyroid gland can be modified through the diet as well as by medicinal administration of this element, for iodine is more widely distributed in food and beverages than is generally realized. The air also contains iodine,—especially in the vicinity of the ocean, though river water also contains it, that of the Seine, *e.g.,* containing 5 mg. ($\frac{1}{12}$ grain) in every 10,000 kilos. (10 tons) of water. Many plants contain a noteworthy proportion of iodine, while, on the contrary, some do not contain any at all. The following articles may be considered iodine-free: Almonds, artichokes, bananas, young carrots, cocoa beans, chestnuts, Brussels sprouts, coffee beans, hazelnuts, endive salad, beans, lentils, peas, figs, strawberries, raspberries, melons, oranges, plums, pears, apples, grapes, wheat, rye, oats, barley, black radishes, and tomatoes. The following contain a great deal of iodine: Pineapples, beets, mushroms, rice, garlic, and dandelion leaves. French wines, with the exception of champagne, all contain iodine.

Among the foods of animal origin, those obtained from the sea, especially shrimps, lobsters, and mussels, naturally contain the largest proportion of iodine. The meat of herbivorous animals contains a relatively large quantity of it, though calf, horse meat, and beef contain but little. Pork possesses a high iodine content. The flesh of game, including both mammals and birds, also contains a notable amount of iodine. Eggs can in general be put down as iodine free, while milk belongs to the group of foods with an intermediate iodine content.

From data such as the preceding the physician will be able readily to decide what articles of diet and beverages he may order in exophthalmic goiter, simple goiter, myxedema, obesity, etc. A. von Bokay (Zeitschrift für Balneologie, vi, 339, 1913; Schmidt's Jahrbücher, November, 1913).

The Part Played by the Suprarenals in the Normal Reactions of the Body.—Starting from the proposition that the existence of secretory nerves to the suprarenal glands may be regarded as definitely established, the author, at the suggestion of Starling, set out to investigate the action these fibers have on the form of the curve of blood-pressure when the peripheral end of the splanchnic nerve is stimulated. The curve does not present a simple rise and fall, but has two summits. The splanchnics were exposed extraperitoneally, and all the nerves to the heart were cut. The second rise, as Lehndorff had already found, is accompanied by constriction of peripheral blood-vessels (even after denervation) and by acceleration and increased tone of the heart (likewise after denervation). The author finds that the secondary rise and all the concomitant phenomena are due to the discharge of epinephrin into the circulation, and are absent after extirpation of both suprarenals. Every rise of blood-pressure brought about by the agency of the nervous system thus involves the co-operation of the chemical mechanism represented by the suprarenal glands. G. von Anrep (Journal of Physiology, vol. xlv, No. 5, 1912).

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Ovarian Function in Basedow's Disease.—Report based on an investigation of 40 cases. Deficient function of the ovary predisposes to the production of Basedow's disease. The physiologic climacteric may be considered to predispose to this affection. In 5 cases the menstruation before the manifestations of the affection, as well as in the first few months after its appearance, was regular. Entire cessation of the menses at the onset of the affection was noted in 10 cases. A connection between the severity of the cases and the cessation of the menses at the beginning of the disease cannot be established, but cases in which the menstrual flow has either ceased for a long time or in which the amenorrhea is interrupted by rare and scanty menstruations must invariably be classified among the grave ones. The treatment must be directed toward increase of the ovarian function. O. Frankl (Gynäkologische Rundschau, vol. vii, No. 17, 1913).

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Cardiovascular Action of Pituitary Posterior-lobe Extract in Acute Adrenal Insufficiency.—The writers had previously shown that, when purified and delipoided extracts of the posterior lobe of the pituitary of the ox are injected into man, the rabbit, and the dog, they produce, among other effects, a marked fall of arterial pressure. They now record experiments on 8 rabbits in which acute adrenal suppression had been performed under chloroform anesthesia, either by bilateral adrenectomy or by forceps compression of the hilum of each adrenal. On injecting intravenously posterior-lobe pituitary extracts within from five minutes to six hours after the time of bilateral adrenal suppression, a marked rise in the carotid blood-pressure was constantly produced, *i.e.*, the opposite effect of that obtained in the intact animal. H. Claude and R. Porak (Société de Biologie, Paris, May 16, 1913).

Action of Epinephrin on Tetanus Toxin.—The author found that epinephrin exerted a powerful action on tetanus toxin *in vitro,* 1 Gm. of the alkaloid neutralizing several million lethal doses of the toxin. If, however, dried adrenal powder is used instead of epinephrin, all the tetanizing properties of the mixture are retained, even where the adrenal powder employed represents a notable quantity of epinephrin. Hepatic extracts, nervous tissue filtrates, and lecithin are similar to adrenal powder in their lack of antitoxic power. In fact, it is possible that lecithin, so abundantly distributed in the adrenal cells, or one of its derivative combinations, may actually favor the action of tetanus toxin. Conclusions: (1) The amount of tetanus toxin acting on the neurons must be extremely small, most of it being neutralized in the organism, perhaps by epinephrin, in the adrenals; (2) lecithin compounds are not unrelated to the action of tetanus toxin on the nerve-cell. A. Marie (Annales de l'Institut Pasteur, January, 1914).

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Do the Parathyroids Functionate in Intrauterine Life?—The following conclusions are reached by the author: Thyroparathyroidectomized pregnant dogs (in later stages) seemingly go into convulsions earlier and die sooner than non-pregnant dogs. In thyroparathyroidectomized pregnant dogs fetal parathyroids probably do not then compensate for the mother's glands. Possibly some endocrine glands do not functionate in intrauterine life. Unmistakably, the earlier in pregnancy thyroparathyroidectomy is performed, the longer the postoperative life. The results of the author's work may in a sense support the parathyroid theory of eclampsia. Direct evidence of heredity as an etiologic factor in goiter came to light in the series. In dog fetuses the left thyroid gland is almost always the larger. A. Werelius (Surgery, Gynecology, and Obstetrics, February, 1913).

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Internal Secretion of the Corpus Luteum.—The author, to isolate the specific substances of this body, separated the yellow structures from the surrounding connective tissue and rubbed them up with sand and distilled water. The resulting mass was then extracted with salt solution and its effect on the coagulation of human blood studied. In every instance coagulation was accelerated. He believes that during normal ovulation coagulation of the blood is favored by the luteum cells which are freed during the rupture of the Graafian follicle. It is possible that the substances liberated enter the blood-stream and bring about a cessation of the menstrual discharge. Kiutsi (Monatschrift für Geburtshülfe und Gynäkologie; Charlotte Medical Journal, May, 1913).

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Use of Epinephrin in Hiccough.—Report of a case of obstinate hiccough in a patient suffering from renal colic in which, after large doses of bromide, chloral hydrate, chloroform, and cocaine; injections of morphine, gastric lavage with silver-nitrate solution, spraying ethyl chloride

on the epigastrium, and even general chloroform anesthesia had failed to bring relief in the course of eleven days, administration of epinephrin proved promptly effective. The patient took 10 drops of the 1:1000 solution; at once the hiccough became milder and less frequent, and upon repeating the dose half an hour later the symptom completely and permanently disappeared. The action of the drug in relieving hiccough is compared by the author with the "antispasmodic" action it is well known to exert in bronchial asthma. J. Ségal (Journal des praticiens, August 23, 1913).

* * *

Myxidiocy in the Presence of the Thyroid Gland.—The rare occurrence of myxidiocy in spite of the presence of the thyroid gland is explained by the author in the following manner: As the result of a developmental disturbance there has ensued a deficient growth of the brain and of the system of endocrine glands, especially the testicles, thyroid, and hypophysis. The idiocy is the result of the underdevelopment of the brain. The disturbance of correlation of the entire glandular apparatus thus produced gives rise to the myxedematous condition. Goldstein (Deutsche Zeitschrift für Nervenheilkunde, vol. L, Nos. 1 and 2, 1913; Archives of Diagnosis, October, 1913).

* * *

Action of a Lipoid from the Thyroid Gland.—The author reports experiments which showed that a lipoid he has extracted from the thyroid gland greatly stimulates the functions of the adrenals, ovaries, uterus, and testicles. The lipoid appears to stimulate the heart much more in female than in male animals. Its action on the spleen and kidneys is only feeble. It is a powerful stimulant, however, to the thyroid gland itself. Its action shows a considerable difference in the two sexes. It exerts an effect on the growth of young animals, rendering it more regular. In adults, on the other hand, it brings about a loss in weight. H. Iscovesco (Société de Biologie, Paris, November 8, 1913; Paris médical, November 15, 1913).

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Relation of Palpitation and Tachycardia in Exophthalmic Goiter to Cardiac Lesions.—In 80 per cent. of cases of exophthalmic goiter, palpitation may last for years without any sign of organic heart lesion developing. The association of mitral regurgitation with exophthalmic goiter can be explained by the occurrence of a history of rheumatic fever in 10 to 12 per cent. of exophthalmic goiter cases. Tachycardia is itself the result of serious organic disease of the heart, not perhaps obvious for the time, but becoming manifest later on. S. West (St. Bartholomew's Hospital Journal, August, 1913; Archives of Diagnosis, October, 1913).

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Parkinson's Disease in a Case of Long-standing Exophthalmic Goiter.—The author reports such a case and states that the center giving rise to the tremor in paralysis agitans may be stimulated either by ordi-

nary circulatory disturbances, by disorders of nutritional metabolism felt to an exaggerated degree in an abnormal organ, or by various toxic agents, among which may be mentioned as frequently operative ductless-gland products altered as to quality or quantity, in particular those of the thyroid and parathyroids. G. B. Cacciapuoti (Annali di neurologia; Archives de neurologie, January, 1914).

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Action of Epinephrin in Acute Experimental Renal Disease.—Rabbits poisoned with uranium oxide can be kept alive with epinephrin injections as long as there is no anuria, even if they have received many times the lethal dose of uranium. Improved function is evident in a decrease of albuminuria and an increase of urinary output. The intense parenchymatous degeneration of the kidneys, however, is in no way influenced by the epinephrin. Hess and Wiesel (Wiener klinische Wochenschrift, February 27, 1913).

* * *

Use of Hormonal in Operative Gynecology to Induce Peristalsis.—From experience with the use of hormonal in 200 cases of laparotomy for various indications, the writer concludes as follows: Intramuscular injection of hormonal is of use after laparotomies (1) to prevent intestinal paresis, and (2) to regulate the intestinal function during convalescence. Such intramuscular injection of hormonal is absolutely safe. Intravenous injection, however, is to be avoided. J. Szenassy (Zentralblatt für Gynäkologie, July 12, 1913).

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Mental Disturbances in Exophthalmic Goiter.—Report of a case of Basedow's disease in a woman 41 years of age, associated with manic-depressive insanity. The last attack lasted four years and was characterized by profound asthenia and emaciation, the body weight sinking to 24 kilos. At present a mild hypomaniacal state exists and the patient's weight has risen to 59 kilos. in the course of eighteen months. Trénel and Capgras (Société clinique de Médecine mentale, Paris; Archives de Neurologie, January, 1914).

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Thyroid Lesions in Unused Guinea-pigs.—The authors found chronic lesions of the thyroid to be rather frequent in apparently normal guinea-pigs that had not yet been employed for experimental purposes. Caution is therefore necessary in the interpretation of lesions of this organ where experiments supposed to injure have been performed in this animal. Beelson and Weinberg (Société anatomique, Paris; Presse médicale, July 30, 1913).

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Thyroid Transplantation.—Two children with congenital myxedema exhibited no improvement under thyroid treatment, but were markedly benefited by grafting of a piece of the mother's thyroid into the spleen and tibia, respectively, after a preliminary operation to prepare the pocket for the graft. Kotzenberg (Medizinische Klinik, March 23, 1913).

Department on General Medicine

Original Articles

THE VALUE OF ANATOMY AS APPLIED TO THE DIAGNOSIS OF MEDICAL CONDITIONS.

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Were it not well known that the medical clinician rarely applies anatomic knowledge in his diagnostic work, the title of this paper would seem to be an anachronism. Despite the fact that John Hilton long ago adumbrated in his lectures at Guy's Hospital, and later in his work entitled "Rest and Pain," much that will be discussed here, it does not seem to have filtered through to the practising physician, whether a family doctor or consultant. The chief reason, therefore, probably lies with those who teach anatomy in our schools, as well as, in no small degree, with the teachers of general medicine and the specialties, to whom anatomy has often become a lost art. The surgeon must of necessity possess a fairly intimate knowledge of anatomy, though we have often heard surgeons assert that too intimate a knowledge renders one a slow, careful dissector rather than a bold surgeon. Medical practitioners, on the other hand, not recognizing its splendid helpfulness, allow their anatomic knowledge to wither through disuse. Let us quote John Hilton once more. Speaking of the method of diagnosis by anatomic association,[1] he says: "But surely these parts belong as much to medicine as to surgery, and to surgery as to medicine. It appears to me to be a fictitious line which divides the principles of medicine from the principles of surgery. Both must be essentially based upon precisely the same physiological and pathological laws, and therefore, if I as a surgeon, show you that there is a certain systematic distribution of the nerves to the muscles, to the skin, and to the joints which those muscles move, surely I may be at liberty to extend my illustrations to other parts of the body." This is the keynote of the theme. Anatomy is of as much importance to the physician as it is to the surgeon, for he may mutilate or kill through ignorance just as surely as an unqualified surgeon, though not quite as quickly.

The subjects we have chosen for discussion are as follows:—

[1] "Rest and Pain," edited by Jacobson, 1898, p. 246.

1. The relations of the ethmoid cells and sphenoid sinus to the optic nerve and the ophthalmic division of the trigeminal nerve, and the clinical phenomena due to their mutual propinquity.
2. Transferred abdominal pain in intrathoracic disease.
3. The clinical significance of the autonomic cerebrospinal arc.
4. Sacroiliac disease and possible errors in diagnosis.
5. Abdominal pain in angina pectoris.

1. Relations of Ethmoid Cells and Sphenoid Sinus to Optic and Trigeminal Nerves.

As an illustration of the first of these groups we wish to cite two cases:—

The first was that of a woman of 45, seen by one of us in consultation with Dr. Conrad Hoell, of Camden, N. J. Dr. Paul Pontius, of this city, had also been in attendance with Dr. Hoell, owing to her ocular condition. Eight months before, after a trolley trip to Trenton, the patient had suddenly developed herpes over the left side of the head, the condition beginning in the frontal region, and then extending down the left side of the nose to the tip and over the vertex to the lambdoid. She suffered a great deal of pain. About one week later the left eye became involved, and in twenty-four hours this eye was closed by the edematous swelling of the lids. The skin lesion healed in about four months, but numerous scars marked its site. The edema of the lids lessened, but the ocular condition remained, varying in severity from time to time. Vision had remained, though deficient, till about ten days prior to the consultation, at which time the sclera was very much injected, and the ciliary zone likewise; she also had hypopyon and an ulcer on the cornea. Owing to the pain, she had been given morphine, the administration of which was insisted on by her husband, who would not permit her to suffer; in consequence she had developed a desire for it. This made it necessary to remove her from his influence, and she was therefore placed in a private room in a hospital. On anatomic grounds it seemed palpable that we were dealing with a case of sinusitis, ethmoid and sphenoid, with irritation of the frontal and nasal branches of the superior division of the fifth cranial nerve and probably of the lachrymal branch also. Opportunity was not given at that time for a more intimate study of the nasal chambers, and her condition did not warrant operative interference of any character, so that it is not possible to say with certainty whether we were dealing with a suppurative condition or with a chronic hyperplastic inflammation, but the former seemed the more probable from the clinical course. She was ordered a daily cabinet sweat, preceded by 1 powder hourly for 3 doses of Dover's powder, gr. ij; acetphenetidin, gr. iv, and acetylsalicylic acid, gr. vj, to facilitate a greater degree of diaphoresis. A high colonic flush every second day was ordered, and strychnine sulphate, gr. $\frac{1}{40}$, in Basham's mixture, f℥ss, four times a day prescribed. Locally, the use of a 4 per cent. cocaine solution, alternating with chloretone inhalant, each once daily, both followed by the introduction of a pledget of cotton, saturated in 25 per cent. argyrol solution, and allowed to remain in the nostrils two or three hours, was advised. Within the past two weeks Drs. Hoell and Pontius have informed us that she gradually progressed to apparently perfect recovery under the above measures, except that she continues to insist she must have morphine. To insure against a repetition of the trouble, operation is indicated.

The second patient was referred to one of us by Drs. McCluney Radcliffe and C. C. Biedert in the month of January, 1913. She is 42 years of age, and has an excellent family and previous personal history. Physical examination was negative, except for slight tenderness in the regions of the gall-bladder and vermiform appendix.

Urine practically negative: Specific gravity, 1.015; acid; a faint trace of indican; a questionable trace of albumin; no sugar; microscopically, negative. Blood examination showed 4,260,000 erythrocytes, 8400 leucocytes, and 83 per cent. hemoglobin; Wassermann reaction was negative on two occasions. The first attack of eye trouble occurred in March, 1904, and the next, two years later. At the time she came under observation she had a well-marked keratitis and hypopyon. She was unable to state definitely how many attacks she had weathered since, but for the past three years she said she had averaged 8 to 10 a year. Each attack lasted from two to three weeks, during which she was unable to use the eye, only one being involved at a time. The attacks in the left eye were more severe and of slightly longer duration than those occurring in the right. At the same time she would suffer pain in the cheek, radiating down to the lower jaw and from vertex to base on the affected side, attacks of shooting pain in the affected eyeball, and frontal headache. Of late the attacks had been more frequent.

An examination of the nasal chambers was made by one of us, and large inferior and middle turbinates, but no evidence of pus, were noted. A diagnosis of chronic hyperplastic ethmoiditis was made, and the patient referred to Dr. Pfahler for X-ray examination. He reported as follows: "I find that Miss H. has unusually large inferior turbinals, which seem practically to close the nostrils, and I would think this probably interferes with drainage of the sinuses, and may account for the infection. There is also evidence of exudate in the ethmoid cells on both sides. The maxillary sinuses are clear and the sphenoid sinuses are certainly not filled with pus. The frontal sinuses, I believe, are also clear, though the outer cell on the right side is less transparent than elsewhere. It is not likely, however, that in a case of this kind, of a chronic nature, the disease would limit itself to a single cell of the sinus."

Dr. Biedert subsequently operated upon her. He snared off the middle turbinals, and then, breaking through the ethmoid bulla, curetted the ethmoid cells, removing granulation tissues. No pus was discovered. This was done in April, 1913. Since then she has had two very slight attacks, both in the right eye, which only lasted about forty-eight hours. Her general health, she states, has never been better than at the present time. It seems likely that further operative interference will be required, all of the local morbid focus not having been removed. Sufficient time has not elapsed, however, to permit of judging the extent of the remaining trouble.

Infection of the eye may be one of the expressions of a systemic disease, as syphilis or tuberculosis; or it may be metastatic, as in cerebrospinal meningitis, the infection traveling along the nerve-sheath lymphatics or by way of the blood-stream, or, again, it may be secondary to sinus or nasal disease. We believe that reflex ocular, orbital, and palpebral irritation from these latter sources is a very common condition. Skillern, in his recent book on "The Accessory Sinuses of the Nose," gives some excellent plates showing the anatomic relations and makes frequent reference to the various reflex and infective processes which complicate sinus disease. Badly deflected nasal septa and turbinal hypertrophy, in the absence of actual sinus infection, may likewise invite refractive errors and various reflex phenomena manifested in the distribution of the fifth nerve, especially its superior branch. The close relation between the optic chiasm and the sphenoid sinus and ethmoid cells, especially the posterior ethmoid cells, and the fact that branches of the ophthalmic division of the fifth nerve supply the mucosa of the sphenoid, ethmoid, and frontal cells, the nasal mucosa and the skin of the frontal and scalp

regions, and, in conjunction with the sympathetics, innervate the eye, explain the clinical phenomena.

Marked septal deviations, large spurs, and gross hypertrophies of the turbinals are apt to cause refractive errors, and these are especially prone to be inconstant, *i.e.*, refraction readings made on consecutive days frequently show considerable variation. Such conditions are doubtless the result of irritation of the nerve-endings of the nasal branches of the superior division of the fifth, in their relation with the third nerve and the sympathetic.

Another point of considerable interest presented by these cases is the analogy which they bear to root-zone disease, in segmental areas. Nerves in segmental areas, especially typified by the thoracic group, have anterior and posterior roots in association with the ganglion. Evidence is accumulating to show that this is true of some of the cerebral nerves,—undoubtedly so of the fifth with its Gasserian ganglion and double root, motor and sensory, and probably so of the seventh nerve and its geniculate ganglion, and of the third with its ciliary ganglion. The case of herpes of the cornea, face, and scalp described above permits, therefore, of still an additional interpretation other than infection, viz., nuclear irritation, quite similar to that which occurs in cases of herpes involving the thoracic distribution.

The interpretation of symptoms in sinus disease is rendered more intelligent if the anatomic relations and nerve distribution be worked out. The ease with which infections of the nasal mucosa are transferred to the frontal sinus by way of the middle meatus, directed by the hiatus semilunaris into the ostium frontale and, its upper limit passed, into the air space, is sufficiently understood. So also is understood the access of like infections to the ethmoid cells and sphenoid sinus.

Turning, then, to the nerve distribution of this area, we find that the ophthalmic division of the trigeminal nerve is all-important. Following its frontal branch, we recall that it enters the orbit through the sphenoidal fissure, invested by its own dural sheath; passes forward above the orbital muscles, thence between the periosteum and the levator palpebræ superioris, and, finally, at a point approximating the middle of the orbit, divides into its terminal branches, the supratrochlear and the supraorbital. The supratrochlear nerve, smaller than the supraorbital, gives off near the superior oblique pulley a branch which, joining the infratrochlear, sends filaments to the skin and conjunctiva of the upper eyelid. Turning upward and inward, its subdivisions pierce the frontalis and orbicularis palpebrarum muscles, supplying the integument of the inner and lower part of the forehead. The supraorbital, on the other hand, appears to be the continuation of the frontal nerve. It lies close to the periosteum throughout its course and, as will be recalled, leaves the orbit through the supraorbital notch or foramen. Here it sends a small twig to the frontal sinus to supply its diploë and mucous membrane. As it passes from the orbit it sends some small branches of supply to the upper eyelid. It now divides into the larger outer and the less inner branches. These turn upward underneath the frontalis muscle, relatively deep grooves being provided on the frontal bone for their passage, and are then distributed

to the pericranium and scalp. As a rule, the outer branch proceeds as far back as the lambdoid suture, while the inner branch passes to the region just dorsad to the coronal suture. Both branches communicate with the facial, giving rise to a sensory-motor mechanism for the musculature.

The distribution of the nasal branch of the ophthalmic division is also of interest. This nerve, entering the orbit through the sphenoidal fissure, inclosed in a dural sheath, passes between the heads of the external rectus and, slipping between the upper and lower branches of the oculomotor nerve, turns obliquely inward, crosses the optic nerve, passes beneath the superior oblique and superior rectus muscles, and is projected above the internal rectus to the anterior ethmoidal foramen. Traversing this, it enters the cranial cavity and passes forward in a groove along the lateral aspect of the cribriform plate of the ethmoid. Now, dropping through the nasal fissure and leaving the cranium, it enters the nasal fossa for distribution. In its course it gives off the sensory root to the ciliary ganglion, and also the two long ciliary nerves. These pass forward mesad to the optic nerve and, joining the short ciliary nerves, pierce the sclerotic coat to be distributed to the iris, ciliary muscle, and cornea.

The infraorbital branch, running along the inner orbital wall, passes beneath the superior oblique muscle and its pulley, and forward is distributed to the integument of the upper eyelid, root of the nose, conjunctiva, lachrymal caruncle, and lachrymal sac. Of the terminal branches (Piersol's grouping) :—

(*a*) The septal branch supplies the mucosa of the ventral portion of the septum.

(*b*) The external nasal branch supplies the ventral portion of the middle and inferior turbinate regions and the outer wall of the fossa.

(*c*) The anterior nasal branch, passing downward in a groove on the dorsal surface of the nasal bone, between the nasal bone and superior lateral cartilage of the nose, emerges under cover of the compressor naris and supplies the integument of the ventral nasal surface and tip of the nose.

It is generally accepted that branches are given off in the anterior ethmoidal foramen to the frontal and ethmoidal sinuses. Luschka and Krause both describe a branch passing back through the posterior ethmoidal foramen to the posterior ethmoidal cells and sphenoidal sinus.

With these points in mind, let us turn to the sympathetic. It will be recalled that the intracranial sympathetics, giving rise to the carotid and cavernous plexuses, the former laterad and the latter mesad to the internal carotid, and the two intercommunicating, are but the upper continuation of the superior cervical sympathetic ganglion. Further, these plexuses give off the branches, which in turn are distributed as pupillodilator fibers, vasomotor fibers to the arteries of the head and neck, pilomotor fibers to the integument of the head and neck, and motor fibers to the involuntary muscles of the orbit and eyelids.

The additional anatomic factor in this study is the ciliary ganglion. Receiving its sympathetic root from the cavernous plexus, its motor root from the oculomotor nerve, and its sensory root from the ophthalmic nerve, it

sends two groups of short ciliary nerves, one above and the other below the optic nerve, to pass forward in grooves on the inner surface of the sclerotic coat, and to supply the choroid, iris, ciliary muscle, and cornea. The short nerves comprise three sets of fibers (Piersol):—

(*a*) Sympathetic fibers to the walls of the blood-vessels and the dilator muscle of the iris.

(*b*) Fibers supplying the ciliary muscle and sphincter muscle of the iris.

(*c*) Trigeminal fibers which transmit sensory impulses from the interior of the eyeball, in conjunction with the long ciliary nerves.

Thus, there will be seen to exist an anatomic basis for the following conditions:—

1. Irritation of the nasal and septal terminal branches of the ophthalmic.
2. Irritation of the twigs to the frontal, ethmoidal, and sphenoidal sinuses.
3. Irritation of the iris and anterior chamber.
4. Irritation of the conjunctiva, lachrymal caruncle, and sac.
5. Irritation of the integument of the nose from tip to root.
6. Irritation of the scalp back to the lambdoidal suture.
7. Spasticity of the affected musculature by reason of the intimate relation with the seventh nerve.

(*To be concluded in the April issue.*)

ANGINA PECTORIS: ITS CLINICAL PHYSIOLOGY.

By GEORGE O. JARVIS, M.D.,

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The phenomena which accompany an attack of angina pectoris have received but little accurate study, probably because at the time the patients are seen they are under such stress that definite action is demanded rather than deliberate consideration. James Mackenzie, of London, has given more attention to the physiology and pathology of the anginal attack than any other writer, and I have availed myself of his works to check and corroborate my own attempts to study and treat anginas.

Occlusion of a large branch of the coronary artery leads to a rapid fall of blood-pressure and causes the heart muscle to pass into a state of fibrillation.[1] According to Osler, in all fatal cases of angina pectoris there is chronic endarteritis with narrowing of the aortic opening of the coronary vessels, this probably explaining the sudden death of patients whose coronary arteries are diseased. Fibrillation is explained by Starling as being the result of a block produced through interference with the nutrition of a considerable part of the heart wall. The same condition can be produced by freezing the apex of the ventricle—a block being thus caused—or by stimulating the surface of the

[1] Starling: "Textbook of Physiology."

ventricle at a rate greater than that at which the ventricle as a whole can respond.

That the coronary arteries of such persons do not furnish a sufficient blood supply to the heart muscle may be accepted as true; but this does not take into account the fact that vagal tone is progressively exhausted during the progress of the attack, and that it is found to be considerably less than normal in the interval between attacks. Exhaustion of vagus and muscle tone explains why very low blood-pressures are sometimes encountered at the close of a paroxysm.

Mackenzie states that angina pectoris can occur when the excitability, rhythm, and conductivity of the heart muscle are unimpaired; but that the tone is invariably impaired. This can be demonstrated by the method of Dr. Albert Abrams, of San Francisco, which consists in noting the amount of pressure at the level of the seventh cervical vertebra which will inhibit the radial pulse. The pressure required to produce this effect is normally about 10 kg. In hypotonia the pulse can be inhibited by much less pressure, sometimes by as little as ¾ kg. This is true even when the size of the heart is not at the time greatly in excess of the normal.

If the cause of angina were only a mechanical obstruction at the aortic end of the coronary arteries, then measures directed to improve vagal tone would fail to relieve the pain; nor could we understand why psychic disturbances should be even more efficient in precipitating an attack of angina than physical exertion. Emotional disturbances as well as muscular activity set free in the blood an excess of epinephrin,[2] a substance which decreases vagus tone. A practical application of this fact is the use of epinephrin hypodermically to cut short an attack of essential asthma. It is known that essential asthma is associated with vagal hypertonia, and that in susceptible individuals an attack of asthma may be precipitated by the induction of hypertonia of the vagus.[3]

In the course of my observations it was found that very light pressure at the level of the seventh cervical vertebra is sufficient to inhibit the pulse of patients just after an anginal attack has passed, and that, while the tone of the vagus is improved in the interval between attacks, it is still deficient.

Pain is one mode of expression of an exhausted heart muscle. The pain due to cardiac dilatation is of the same character as that due to distention of any other viscus, *e.g.*, the urinary bladder, gall-bladder, stomach, or intestines. That the pain of anginal paroxysms is caused by overdistention of the heart I have no doubt, as cardiac dilatation could be positively demonstrated in every case examined, and relief of the pain coincided with regression of the distention. In every patient there was auricular fibrillation and, at some time during the progress of the attack, an irregular ventricular beat with evidences of heart block.

Cutaneous hyperalgesia in typical angina pectoris is found in areas supplied by the second, third, and seventh cervical nerves and by the first,

[2] Sajous: "Internal Secretions."
[3] Abrams: "Spondylotherapy."

second, third, fourth, and fifth thoracic nerves, *i.e.*, over the skin of the side of the neck above the clavicle, over the second to the fifth ribs anteriorly, and over the inner side of the left arm. The skin over the side and front of the neck is supplied by the second and third cervical nerves, which are connected with the sympathetic nerves to the heart from the superior cervical sympathetic ganglion. The skin supplied by the first to fifth thoracic nerves is made hypersensitive through a similar mechanism; the segment of the cord in this region is irritated by continually recurring stimulation of the afferent sympathetic nerves of the heart, the so-called "summation of stimuli" of Mackenzie taking place.

The pain of angina is due to a viscerosensory reflex caused by attempts of the heart to empty its chambers of an accumulated and excessive amount of blood which stretches its walls and embarrasses its functions. The heart cannot pass into a state of prolonged contraction (tetanus) because, as soon as it contracts, its contractile function is in abeyance and it automatically relaxes into diastole.

The following signs were noted during an attack of angina pectoris typical of those on which this paper is based:—

The patient was a woman of 72 years, 5 feet 1 inch in height, weighing 100 pounds. There was slight pulmonary emphysema, marked visceral ptosis, constipation, and indigestion. The urine showed ¼ per cent. of albumin, together with fatty casts, and had a specific gravity of 1.015 to 1.020. The amount in twenty-four hours was 25 to 30 ounces. The case was diagnosed by two other physicians as angina pectoris, of which a number of attacks have been experienced during the past ten years. These attacks follow mental or physical exhaustion, and are sometimes preceded by premonitory dizziness. The onset is sudden; the patient falls to the ground and fears to move lest she die. There is acute, sometimes agonizing, pain in the left arm and shoulder. The lips become swollen and dusky, the face drawn, and great dyspnea, with distention and pulsation of the veins of the neck, ensues. The liver is enlarged and may be felt to pulsate. There is pain and oppression in the left chest, with a feeling of weight and a choking sensation in the throat. The pulse increases in rate until the latter has reached 140 to 150 per minute.

After the attack has progressed for a short time the skin and muscles over the left chest, the inner side of the left arm, and the left side of the neck become painful and tender to pressure. The blood-pressure is high. In one attack it was, when first taken, 220 mm. Hg; it then dropped to 215, rose again to 220, and once more dropped to 210, averaging for the first half-hour about 215. Just after the attack the blood-pressure was 155, and the pulse, which was the more frequent the higher the blood-pressure, and ran from 120 to 140 when the blood-pressure was at its highest, dropped to 82 per minute. During the period in which the heart was beating 140 to the minute there would be an occasional slow ventricular beat, though the auricle was in fibrillation from the beginning of the attack to its termination.

The transverse diameter of the heart, which was 18 cm. when the patient was seen on the day after an attack,—the pulse rate being 90 per minute,—was considerably greater during the paroxysms, the organ dilating till it seemed to fill the entire chest with irregular, heaving waves of pulsation.

Heart block and irregular heart were found in all cases I examined, and in one case which I saw about a year ago the pulse was so slow as to lead

me to believe there was a "spasm of the heart" or "spasm of the coronary arteries," "spasms" which I now believe to be non-existent. Examining the same patient during a subsequent attack it was found that the auricle was enormously dilated and in a state of fibrillation. The ventricle was also dilated, but not to the same extent as the auricle. The pulse was generally rapid—110 to 125 per minute, but showed periods of lower rate—60 to 80.

It was observed that the cardiac irregularity increased and decreased *pari passu* with the increase and decrease of the dilatation, so that there was a relation between the degree of distention of the heart and the degree of cardiac irregularity.

When it was attempted to reduce the cardiac dilatation by concussion at the level of the seventh cervical vertebra according to the method of Dr. Albert Abrams, the concussion was found to produce much less effect in proportion than the same amount of concussion would do in patients whose hearts were dilated, but who were not at the time in an anginal paroxysm, or in the same patients during the intervals between attacks. This also demonstrates the loss of tone in the nerve-muscle mechanism in these cases.

The woman whose case has been described required morphine in doses of ¼ grain (0.015 Gm.), repeated two or three times, to relieve the pain in the arm and chest during the more severe attacks, and even with this amount pain lasted for some time.

Concussion at the seventh cervical vertebra practised during the attack reduced the diameter of the heart by 5 cm. and that of the aortic bow by 4 cm. on two separate occasions, with relief from the pain in about ten minutes; the patient soon fell asleep without the use of any hypnotic. Concussion gave more prompt and marked relief from pain than morphine. Concussion alone was not as efficient as concussion combined with a hypodermic injection of $\frac{1}{10}$ grain (0.0065 Gm.) of pilocarpine.

Morphine should be employed with great care in these cases, as its effect is to deaden the receptivity (sensibility) of the reflex centers which preserve heart tone, and an overdose may and has caused sudden death from unrestrained distention of the heart or aorta. Atropine, hyoscine, and other substances derived from the belladonna group are absolutely contraindicated, because their effect is to dilate the heart and aorta and to decrease their tone. The much-used combination of morphine, cactine, and hyoscine, so frequently serviceable in cases of a different nature, should by no means be employed if a loss of vagal tone is suspected.

Pain and tenderness, which often persist after the attack, are to be relieved by freezing at the level of the cord, which is connected with the sympathetic nerves of the heart. This maneuver is serviceable also to relieve similar pains encountered after an appendiceal or gall-stone attack and in which the portion of the cord connected with the sympathetic—afferent nerves supplying the viscus in question—has been so greatly and so long irritated that it has become hypersensitive and does not recover upon cessation of the irritation.

CONCLUSIONS.

1. All cases of angina pectoris which I have had the opportunity to examine have shown marked dilatation of the heart and aorta with auricular fibrillation.

2. The cause has seemed to be arterial disease with high blood-pressure and blocking of the coronary arteries. Associated with this is vagal hypotonia, which becomes more marked with the progress of the attack.

3. The blood-pressure is high at the beginning, but sometimes drops to less than 100 mm. Hg at the close. During the attack there are marked variations in the blood-pressure, according as the heart is gaining or losing in its struggle to compensate.

4. The pains of angina pectoris are due to a viscerosensory reflex, and may be relieved by measures which will increase the tone of the neuromuscular apparatus of the heart and aorta.

5. The most rapid and efficient method of treatment is concussion (or sinusoidalization) at the level of the seventh cervical vertebra in conjunction with the use of some drug, such as pilocarpine, to aid in the increase of vagus tone.

6. True angina pectoris differs only in degree from the less grades of cardiac embarrassment, such as the so-called "pseudoanginas."

Cyclopedia of Current General Literature

Albumin in Urine, Test for.—The test described by the author is asserted by him to be equal in delicacy to any other and to have certain features which make it superior to them for routine use. The following solution is employed:—

Picric acid	5 parts.
Citric acid	10 parts.
Sodium chloride	100 parts.
Distilled water	1000 parts.

Technique.—Place 2 or 3 c.c. of the reagent in a test-tube. Filter the urine until it is perfectly clear. Then allow urine very gently to float upon the surface of the reagent in the inclined test-tube. Albumin will show as a white zone at the line of contact of the two amber fluids, which are practically isochromic.

Advantages.—(1) The white ring is shown very clearly. (2) The reagent contains no chemicals which react with urinary pigments, bile, etc.; therefore, no color zones are formed which might hide a small amount of albumin. (3) The heavy specific gravity of the reagent—1065—prevents ready mixing of the urine and the reagent, so that, should albumin be present, it is not apt to be diffused and overlooked. (4) The reagent keeps indefinitely. (5) If spilled, it does no damage to clothing or fabrics, an advantage not possessed by nitric acid. (6) Boiling produces no change, nor is it dangerous; in cold weather, with a cloudy urine from phosphates which the filter does not remove, boiling the reagent first is a

distinct advantage, as the hot reagent restores the clearness to the urine as the fluids come into contact. (7) The reagent does not throw down crystals of salts of urea or nitrogenous substances in concentrated urines. A. E. Osmond (Lancet-Clinic, December 13, 1913).

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Ankylostomiasis, Treatment of.—From a study of 70 cases as to the results of treatment, it became evident to the author that a point of great importance is the percentage of hemoglobin in the blood. If it is in the neighborhood of 60, with suitable treatment the ova will disappear in the course of a few days. With a percentage of 45 to 55, treatment will be more difficult. Anything below 40 per cent. will indicate that great patience will have to be exercised before recovery can take place; it will not be a question of weeks, but of months. The general condition improves with rest and diet, and, as a rule, the edema soon disappears and the patient feels better, but the ova, though decreasing in number, quickly at first and then more gradually, do not disappear entirely for months, while the hemoglobin index remains persistently about its original level. It appears to be possible that, after all the worms have been killed and expelled, ova may still linger about the intestine. Or, the embryos may not have completed their circuit from the skin to the intestine at the commencement of treatment, and fresh invasions may continue to reach the bowel by way of the trachea and esophagus for some time after. One point having a bearing on the difficulty of treating these cases is the presence of a thick layer of mucus in the upper part of the intestine in severe cases. This must help to protect the worms against the anthelmintic. The subsequent treatment, after one has gotten the worms largely if not entirely expelled, requires great patience.

From recent results the author has come to the conclusion that betanaphthol in 30-grain doses given the first thing every morning is likely to prove more effectual than eucalyptus or thymol. The necessity for starving patients while the treatment is being carried out is by no means evident; indeed, in bad cases it may even be harmful. There will not be much food in the upper part of the small intestine five or six hours after an ordinary meal, so that if the drug be given early in the morning there is no necessity for starvation. It is true that large doses of these drugs given frequently are apt to irritate the mucosæ, but that is no reason why one should refrain from employing them in this way. Energetic treatment is needed, and the author has never seen any ill effects follow. R. D. Keith (Lancet, October 18, 1913).

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Bone and Joint Tuberculosis, X-ray Treatment of.—Experimentally, application of the X-rays to tuberculous foci causes a degenerative process in the tubercle cells and an inflammatory process in the surrounding tissues. The author does not believe that the tubercle bacilli themselves are destroyed by them. Useful therapeutic results, however, are to be obtained. In employing this treatment the skin must be protected either by aluminum or thick leather, so that only the hard rays will penetrate. Among the author's patients, chil-

dren less than 5 years old were not rayed. In older children the undiseased epiphyses were avoided, but it seems to the author that surgical procedures in the vicinity of an epiphysis involve more danger of a disturbance of growth than the X-rays.

Good results were obtained whether the synovia were involved or not, but the best effect was noted in tuberculous fistulæ and in tuberculosis with secondary infection. The part was exposed from all sides to an erythema-producing dose, and three weeks then allowed to relapse before repetition. The joints which healed under the X-rays showed but very slight limitation of motion, and the author is certain no injury was done to the epiphyses. He warns, however, about raying abscesses and fungous conditions, with skin reddened and about to give way, on account of the danger of necrosis. Furthermore, orthopedic and surgical measures must not be omitted. Among the 18 cases which the author treated, a number had been for years refractory to orthopedic treatment, yet healed quickly under the X-rays.

In a 16-year-old girl suffering from tuberculosis of both feet, the right elbow, and the fourth finger of the left hand, only the left foot and diseased finger were rayed. The sinuses in the foot disappeared after two months and the one in the finger after five months, and the finger became useful again; the untreated foot and elbow, however, remained unchanged. F. von Schede (Zeitschrift für orthopädische Chirurgie, Bd. xxxi, Ht. 3-4, 1913). * * *

Cutaneous Epitheliomata, Sunlight Treatment of.—The author calls attention to an inexpensive and efficient method of treating small superficial epitheliomatous growths that may be employed by those who are not equipped with X-ray apparatus or the prohibitively costly element, radium. It consists in the use of concentrated sunlight, focused on the growth by means of an ordinary magnifying glass.

For a number of years he has found this treatment invariably successful, chiefly in the obstinate ulcerative patches on the face or nose that repeatedly shed their scabs, only to leave a raw and bleeding base; which never heal under ointments, powders, etc., and which recur with ever-increasing extent year after year. These growths are usually of moderate size, and always malignant.

The technique used is to focus the clear sunlight directly on the sore for ten or fifteen minutes at a sitting. If a scab is present, the author concentrates the rays on it till the patient complains of the burning, then quickly lengthens the focus so as to cover with the rays an area ⅛ inch or more beyond the scab. Every few minutes he induces the burning again for a second and then applies the rays more mildly. After about ten minutes' treatment, the scab will look darker, and during the next few days will become more prominent and loosened. Treatment should be given every day or two till the scab may be easily removed, leaving a raw, bleeding ulcer. Then is the time for a powerful application of the rays. First apply a few granules of cocaine in powder directly to the raw sore, and, after three or four minutes, a treatment so strong as almost to cauterize the base of the ulcer may be borne, to be alternated with continued

milder applications for about fifteen minutes. Milder treatments thereafter, at intervals of three to seven days, through the scabs or immediately after their shedding, will usually complete the cure within three to six weeks. The scabs gradually become thinner and more superficial, and the sore bleeds less after their removal. At last a healthy, permanently normal skin is left, with scarcely a faint scar. Rarely more than 8 to 15 treatments are required to get these satisfactory results. Powdered talcum, boric acid, or bismuth may be dusted over the scab at any time for cosmetic purposes or to dry moisture. Seven cases illustrating the satisfactory results claimed are reported. H. H. Seelye (New York Medical Journal, February 7, 1914).

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Dysmenorrhea, Intranasal Treatment of. — The so-called "genital spots" in the nose are the tuberculum septi and the anterior portion of the inferior turbinate on either side. At menstruation these swell, bleed easily, are sensitive to the touch of a probe, and are slightly cyanotic. In 93 cases of dysmenorrhea the author used the galvanocautery over or applied trichloracetic acid to these spots. The results obtained with the acid were so permanent, and the treatment so free from the danger of forming synechiæ, that in the latter case of the series all patients were treated with the acid. A mild solution of cocaine was applied just beforehand. The slough that forms disappears in about five days, and another application may then be made; 4 applications were made between periods. The patient was requested to report the results of her next menstruation. If entirely favorable, two more reports were requested, and if these remained as favorable nothing further was done. Where relief was slight or nil, 4 more applications were made between menstruations before abandoning the treatment.

The patients were all young women, married and single, in whom all recognized means for the relief of dysmenorrhea had been previously employed and whose pelvic organs presented no organic lesions. One group stood out prominently: those characterized by premenstrual headache, nausea, and colic at the onset of the flow. This symptom-complex was completely relieved. Brettauer, with the author, considers this treatment of great value and one which should be resorted to in all cases of dysmenorrhea in which pelvic disease is absent. Of 81 cases sending in subsequent reports, no relief was obtained in 19, 14 were improved, and 48 were cured. Three were treated because of amenorrhea lasting for from three to twelve months, and in each the flow became regular. Emil Mayer (Journal of the American Medical Association, January 3, 1914).

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Erysipelas, Treatment of.—While the author not infrequently prescribes pyramidon as antipyretic in various febrile disorders, he has never seen it so useful as it proved to be in erysipelas. His experiences with it in 20 patients with erysipelas have been uniformly favorable; he orders it regularly in these cases. Producing a marked diaphoresis, it lowers the temperature to normal or even below it, and restlessness or delirium, if also

present, yield simultaneously. The eruption assumes a less bright red color and ceases to spread, and the general condition rapidly improves. Apparently, in the process of producing diaphoresis, the drug causes elimination of a considerable proportion of erysipelas toxin. Diuretic beverages were also given in nearly all cases.

Locally, the following ointment was used:—

℞ Phenolis,
Camphoræ pulveris, āā gr. xv (1 Gm.).
Adipis lanæ hydrosi,
Petrolati, āā ʒss (15 Gm.).
M.

In none of the patients thus treated were there visceral or meningeal complications. The efficacy of the pyramidon seemed proven by the fact that in 2 cases in which its use was temporarily stopped an exacerbation followed and the erysipelatous process began to spread again. A. Satre (Journal de médecine de Paris, October 11, 1913).

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Eye, Treatment of Pneumococcus Infection of.—A sufferer from long-standing dacryocystitis developed ulcus serpens of the cornea of the right eye. There was intense epibulbar and ciliary injection, with conjunctivitis. The ulcer appeared progressive toward the inner and lower part of the cornea, and was sloughy on its surface. The cornea was hazy throughout, and there was a distinct hypopyon. The ulcer was bathed with a 1 per cent. solution of ethyl hydrocupreine for one-half minute every hour. This was done for six hours of the first day, and twelve hours on the next. Just previous to using the drops the sac was expressed, and the conjunctiva thoroughly cleansed with boric acid. On the morning of the second day the hypopyon had vanished, and the cornea, with the exception of a minute spot on the surface of the ulcer, was transparent. On the third day the cornea was practically normal in appearance. On the seventh day the sac was removed and recovery ensued. Ethyl hydrocupreine has been proven by Morgenroth to be practically specific against the pneumococcus, and he strongly recommends its use in all pneumococcal ulcers. Alfred Wiener (Medical Record, January 17, 1914).

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Fixation Abscesses, Treatment of Infections by.—The cases in which this measure may usefully be employed include puerperal septicemia, infectious pseudorheumatism, pneumonia, appendicitis, typhoid fever, and similar states. The method is as follows: Two c.c. of pure oil of turpentine are injected under the skin in the gluteal region. In a case of appendicitis it is important to keep as far away from the abdominal wall as possible, in case an operation becomes necessary later. Rigorous asepsis is necessary in making the injection. A sharp pain will follow at once, but this may be immediately relieved by the application of a hot fomentation. At the end of three days, or of four at the most, the abscess will have formed sufficiently. There is no need of a large collection of pus for the production of a phagocytosis. The author has often noticed a lowering of the temperature before the formation of the abscess. A small incision, from 2 to 5 cm. in length, should then be made to evacu-

ate the pus, but the abscess must not be drained. Twice a day a Bier cup should be applied. At the end of a week the abscess will be healed and the patient cured.

The author reports cases of rupture of an infected extrauterine pregnancy, lymphangitis of the arm followed by bilateral phlegmasia alba dolens, and typhoid fever with severe septicemic symptoms, in which he used the measure, and in both these and 15 other cases excellent results were obtained. The measure should be employed not merely in exceptional cases, but in any case in which a patient with an infection appears to be taking a turn for the worse. It does not possess any of the dangers which have been attributed to it, causes but little pain if given correctly, and the assistance of a surgeon is not necessary. De Lostalot (Lancet, October 18, 1913).

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Gall-stones, New Sign of.—Attention is called by the author to the fact that, during application of vibratory massage over a gall-bladder containing gall-stones, subcostal tenderness and stiffness are especially marked. Gall-stones irritate the gall-bladder and give rise to more or less congestion, which extends to the adjacent parts. The natural result is stiffness and soreness, although these may be very slight. When a vibratory machine is put into action over the gall-bladder region at about the eighth to the eleventh ribs it is easy to elicit these symptoms, even if ordinary palpation does not detect them. The tenderness developed by vibration may be so slight that only a comparison with the corresponding region on the left side will reveal it; but if there is any congestion or spasticity of the local tissues, vibration, with the resulting muscular contractions, will rarely fail to bring out the comparative increase of tenderness. The author used an olive-shaped vibratory point. He has yet to find a case in which vibration failed to indicate the presence of gall-stones in the manner referred to. R. Hogner (American Medicine, February, 1914).

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Gastric Ulcer and Hyperchlorhydria, Diet in.—The intervals between feedings should be as long as possible, food being given preferably not more than two to four times a day. The diet should be as little appetizing, tempting, and palatable as is practicable. Soups, broths, and other preparations of meat extractives should be forbidden. Meat is to be excluded and protein food reduced. Coffee and tea should be avoided. Water should not be drunk in large amounts, not over 250 c.c., or 8 ounces, at one time. Alkaline drinks, however, may be more freely taken. Carbohydrate food is permissible. Oil should be taken before meals, or the diet should contain a large amount of fatty material.

In using vegetable oils, such as olive oil, almond oil, cottonseed oil, the best results seem to be obtainable by giving it in quantities of an ounce or more a half-hour before meals; with it is given a simple carbohydrate-fat diet. When pure oil is distasteful, it may be given made up in mayonnaise dressing, to be generously used.

The use of cream as the sole or chief ingredient of the diet has also found favor. One quart (4 glasses) of cream a day yields about 1800

calories, which alone is sufficient for many small-sized persons leading the quiet lives of invalids. It contains only about 25 Gm. of protein; but 20 Gm. more of protein would be furnished by the addition of 600 c.c. of milk or 220 Gm. (6 slices) of bread, or 230 Gm. (5 tablespoonfuls) of oatmeal gruel (cooked with milk), or 3 eggs. The richness of the cream in fat effects a marked inhibition of gastric secretion. It may cause acid gastric indigestion from the splitting of its fat by the lipolytic action of the gastric juice; but in the author's experience this effect usually disappears after a few days. If not tolerated in full strength, the cream may be given diluted with an equal or greater amount of milk. The use of corresponding amounts of ice-cream is a useful variant method. Among the 26 cases of gastric ulcer thus dieted by the author, some marked cases, including one with profuse repeated hemorrhages, progressed to good recovery, though two or more months of treatment, with many weeks in bed, were sometimes required to effect this result. The method is adapted to ambulant treatment, and seems rational for simple hyperchlorhydria as well as ulcer. It was also found of prophylactic service, dyspeptic symptoms suggestive of recurrence of ulceration usually promptly subsiding after a few days' resort to cream diet. J. B. Nichols (Journal of the American Medical Association, January 3, 1914).

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Hernia, Inversion of the Hernial Sac in Large Ventral.—In patients who take the anesthetic very poorly, maintaining a disagreeable condition of prolonged and straining expiratory efforts, which force the abdominal viscera into the hernial sac under tremendous pressure, the author advocates the performance of the "inversion" procedure. The details of this method are described as follows: Dissect the skin from the sac and the skin and fat from the fascia for a distance of from 1 to 2 inches beyond the margin of the hernial orifice. Whether the skin shall be entirely removed from the sac depends upon whether the sac is to be inverted entire or not. In but one of the author's cases was it not necessary to open the sac, in order to deal with some attending complication. In these instances more or less skin was removed by the usual elliptical incisions, with the redundant portions of the sac itself.

After the complications have been dealt with and the sac (peritoneum and thin fascia) has been sutured with No. 2 plain gut, doubled, the inversion of the hernia and coaptation of the margin are carried out. For this purpose two rows of sutures of heavy kangaroo tendon are used. Both rows are placed mattress-wise with deep and wide bites in the external fascia, the two rows "breaking joints" with each other. Retention sutures of either bronze wire, silkworm, or chromic gut are used to take the strain off the mattress sutures. The wire is preferred in the large hernias, and the gut may be used in the smaller ones. These sutures are placed in the figure-of-eight manner and brought out through the skin at a distance of from 2 to 4 inches from the skin incision, where they are tied firmly over rolls of gauze or large rubber tubing (quill suture).

A drain of rubber tissues should be

inserted before the skin is closed with silkworm or plain gut. This drain will not be needed more than two days in the small hernias and from five to seven in the larger. The utmost care must be used before, during, and after the operation to preserve complete asepsis.

In these enormous hernias, with multilocular sacs, with adherent viscera and similar complications, the saving of time secured by not having to dissect out the necessary flaps is very considerable, while the method of suturing is so simple and easy that it adds to the celerity of the operation. The danger of perforating the intestines in introducing the sutures may be entirely avoided, if through small incisions in the sac a finger is inserted beneath it and the suturing carried out under its guidance. No disturbance followed from the introduction of the large mass of sac into the abdominal cavity. Nor could any tendency to obstruction of the intestines be noted, the bowels acting spontaneously on the second or third day, even in the largest hernias. Primary union and cure of the hernia resulted in each of the author's 7 cases thus operated. I. S. Haynes (New York State Journal of Medicine, December, 1913).

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Hexamethylenamine, Liberation of Formaldehyde from.—The phloroglucin test is the most delicate and most useful test for free formaldehyde. The reagent used consists of phloroglucin, 0.1 Gm., dissolved in 10 c.c. of 10 to 20 per cent. sodium hydroxide. When first prepared the solution acquires a bluish-violet color, but on standing becomes entirely colorless or with at most a yellowish tinge. The reagent may be used freshly prepared, since the violet color does not interfere with the red of formaldehyde. The test is performed in the cold or at ordinary room temperature by the direct addition of about 0.5 c.c. of the reagent to about 1 to 2 c.c. of the fluid containing formaldehyde. A deep bright red appears instantaneously with higher concentrations of formaldehyde, but with lower concentrations it requires about one-half to one minute for the color to reach its maximum intensity. The color persists for at least five minutes with dilute solutions, and much longer with concentrated formaldehyde. The test is directly applicable to all body fluids except whole blood and bile. The hemoglobin of fluids containing a trace of blood (enough to give a red tint) is immediately reduced by the alkali of the reagent, the solution assuming a yellowish color, and does not interfere with the formaldehyde reaction. The reagent added to water alone gives a clear, colorless solution.

Alkalies prevent, while acids facilitate, the liberation of formaldehyde from hexamethylenamine in all body fluids. Hexamethylenamine itself is not bactericidal. Liberation of formaldehyde from hexamethylenamine depends on the excess hydrogen ion concentration of the solution above the neutral point.

Previous investigations leave us in doubt as to the behavior of hexamethylenamine in the body. After administration, hexamethylenamine is present, but does not liberate free formaldehyde in the blood, cerebrospinal, pleural, pericardial, and synovial fluids, the vitreous and aqueous

humors, and the urine when truly alkaline. Formaldehyde is liberated in urine which is truly acid, and in the acid gastric contents. Administration of monosodium phosphate with hexamethylenamine renders the urine acid and facilitates the liberation of formaldehyde. Administration of alkali with hexamethylenamine renders the urine alkaline and inhibits the liberation of formaldehyde. The beneficial therapeutic effects of hexamethylenamine depend on the liberated formaldehyde. Such effects are to be expected principally, if not always, in acid urine only. It is irrational to prescribe alkalies (bicarbonate and citrate) with hexamethylenamine. P. J. Hanzlik and R. J. Collins (Archives of Internal Medicine, November, 1913).

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Hexamethylenamine, Urinary Antiseptic Value of.—Formaldehyde is a weak and relatively slow germicide, but even in high dilutions exerts a powerful inhibitory influence on bacterial development. A dilution of 1:16,000 is totally inhibitory to *B. typhosus* for twenty-four hours, and 1:6000 is completely germicidal at the end of that time. A dilution of 1:30,000 definitely restrains the growth of the organism, but a dilution of 1:40,000 has no apparent effect.

Of 23 urines obtained by catheterization of the ureters after hexamethylenamine administration, only 5 showed formaldehyde, and these had only a 1:60,000 formaldehyde content. The 18 negative urines all gave a positive test for hexamethylenamine. The latter, as it is excreted from an alkaline blood, does not remain at the level of the kidney long enough to give good conversion to formaldehyde, and even with high acidity and high concentration the formaldehyde at this level is seldom enough to furnish antisepsis.

Only 4 of the author's 116 cases, however, failed to show formaldehyde in the bladder, but only 8 cases, or about 7 per cent., revealed formaldehyde in the germicidal strength (1:7000), and 5 of these had been given acid sodium phosphate. Fifty-five per cent. of the cases gave at some one examination a 1:30,000 test or better.

A formaldehyde content of antiseptic value cannot be expected with a urinary acidity below 2 c.c. of tenth normal sodium hydroxide for 10 c.c. of urine (using phenolphthalein as indicator).

Feeding a patient acid sodium phosphate, boric acid, benzoic acid, or salicylic acid will increase urinary acidity where it is low and very definitely increase the amount of formaldehyde in the urine. The effect of any of these acid-producing drugs will wear off after a time. When this occurs one can again raise acidity by substituting one of the other drugs in its place, and by thus alternating the use of the drugs acidity may be maintained for some time in some cases, but not satisfactorily in all.

It is best not to give these drugs *with* the hexamethylenamine.

In cases of hyperacidity or poor gastric motility there is sufficient conversion of hexamethylenamine to formaldehyde in the stomach to considerably lower the formaldehyde content in the urine. Hexamethylenamine may be given in salol-coated pills in cases of gastric irritability.

Formaldehyde appears in an acid

urine after the ingestion of an average dose (15 grains) in from twenty to thirty minutes, and will have disappeared in from eight to sixteen hours. An eight-hour interval of administration will give good results in routine use, although a higher concentration is obtained with a more frequent introduction.

The dilution of the drug on excretion largely influences the amount of it that is subsequently converted, as, the higher its concentration, the more readily will it be broken down. A polyuria, through the effect of dilution, will largely offset the advantage of large doses.

Disease of the kidney has no influence of the formaldehyde content in the urine. At the level of the kidneys hexamethylenamine in doses of 15 grains three times a day has no antiseptic value. Formaldehyde is present in the bladder urine in some amount in practically every case receiving 15 grains of hexamethylenamine by mouth three times a day, but this dosage is too small to yield a reasonable antiseptic benefit in every case. F. Hinman (Journal of the American Medical Association, November 1, 1913).

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Hirsute Skin, Transplantation of.—The author reports a successful case of transplantation of hair-bearing skin. The patient was an officer who had an ugly, star-shaped scar, 10 cm. by 5 cm., in the temporoparietal region, which was quite hairless. A flap of hair-bearing skin was transferred to his head from that of another individual. The two patients were anesthetized together, and their heads well washed with soap and water. The scarred portion of the officer's scalp was cut out down to periosteum, and was replaced by a piece of the donor's scalp. The wounds healed by first intention, and the hair remained on the graft. The author ascribes the failure of previous attempts to the use of antiseptics, such as iodized benzine, on the skin. In animals the difficulty lies in maintaining the necessary continuous contact of the parts. Victor Perimoff (Zentralblatt für Chirurgie, September 13, 1913).

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Hodgkin's Disease, Benzene Treatment in.—Report of a case of Hodgkin's disease with marked enlargement of cervical lymph-nodes, epitrochlear nodes the size of a robin's egg, and lymph-nodes in the groin only fairly enlarged. The blood showed 5,000,000 reds with 90 per cent. hemoglobin. The leucocytes numbered 7000, with practically a normal differential count.

The patient was treated with the Röntgen ray for four weeks. The lymph-nodes, with the exception of the epitrochlears, gradually became smaller, but a month after the treatment was stopped the lymph-nodes were larger than before treatment. Examination later showed lymph-nodes almost encircling the neck in front, and extending out beyond the lower jaw at the sides. The epitrochlears were the size of a walnut; nodes in the groin were somewhat enlarged, and there was some enlargement of the axillary nodes, as well as a number of enlargements behind the shoulders and in the lumbar region. There was marked cough, due to pressure on the bronchi by lymph-nodes.

Shortly after, the patient was put

on benzene, in the dose of 5 minims three times a day at first, increased to 10 minims. This dose was continued for six weeks. Two weeks after the benzene had been begun, the lymph-nodes everywhere began to diminish in size, and they continued to get smaller even after the drug was stopped. Examination some months later showed barely palpable lymph-nodes in the neck. The epitrochlears were smaller than a butter-bean, there was no enlargement in the groins or axillæ, and the subcutaneous lymph-nodes on the back had entirely disappeared. The patient was working hard as a farmer. G. B. Lawson and E. A. Thomas (Journal of the American Medical Association, December 13, 1913).

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Lipoid Membranes, Artificial.—In the attempt to explain certain peculiarities of cellular permeability the author was led to undertake, with Fouard, a study of artificial lipoid membranes and their influence on the absorption of organic and inorganic substances into cells. Admixture of castor oil and lecithin with collodion was found not to alter, qualitatively, the permeability of the collodion to salts, which seem to pass through the latter just as though nothing had been added to it, whereas water is always excluded, as by ordinary collodion. It seems probable, then, that vegetable and animal membranes contain something besides fatty substances and lecithin to impart to them their property of impermeability to salts, *i.e.,* that a third substance is present. This substance the author has found to be cholesterin. When to the collodion containing castor oil and lecithin is added cholesterin, results are entirely different. Sugars no longer diffuse through, the membrane has become impermeable to salts, and, indeed, osmosis is wholly arrested, as is easily shown by immersing in pure water a saccular membrane of cholesterinated collodion in which has been placed a strong solution of sodium chloride or sugar—no osmotic pressure develops. Now, if it were found that hypnotic drugs readily passed through such membranes, striking confirmation would be afforded to the theories of Overton and Meyer, who explain the passage of hypnotics through the cell membranes by their solubility in lipoids, independently of all physical action. This the author found actually to be the case. All the hypnotics studied passed through the membranes with the greatest ease and generally with a rapidity proportionate to their narcotic action. The drugs experimented with were ethyl carbamate, veronal, aponal, hedonal, sulphonmethanum, tetronal, chloralose, isopral, and neuronal. Far behind the true hypnotics in activity of diffusion came sodium salicylate, hexamethylenamine, urea, and antipyrin. The last-named diffused but very little, while the salicylate passed through with relative ease, even better than urea. Bidechlorochloralose, a derivative of chloralose prepared by Hanriot, was found to be both incapable of passing through the membrane and devoid of hypnotic and analgesic properties, thus clearly affording support, upon comparison with the easily diffusible and strongly hypnotic chloralose, of the author's view concerning the rôle of cholesterin in cell metabolism. Cholesterin appears as a gatekeeper of the cell, opening or shutting off access to it

under influences which it may be feasible in the future to ascertain. E. Fourneau (Bulletin de l'Académie de Médecine, December 9, 1913).

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Lumbago, Treatment of. — The salicyl compounds should be given a trial, especially at the beginning of the attack, and they will sometimes abort it. The author has seen excellent results from a single large dose of quinine—from 10 to 20 grains—administered at the onset of the affection. Fagge taught that lumbago is generally due to a hyperacid state of the urine, and there are many who still hold this opinion. The indication, from this standpoint, is to make the urine alkaline as rapidly as possible with sodium or potassium bicarbonate, or potassium citrate. Half-dram or dram doses of Rochelle salts, however, are preferable. They may be administered every hour or two until the urine is alkaline and the bowels freely moved.

Lumbago affords one of the best examples of the importance of early treatment. The attempt to "walk it off," at its commencement, may succeed if the exercise is accompanied with free perspiration, but in the author's experience those who suffer from lumbago do not perspire readily. A Turkish bath in the early stage is safer and more effective than exercise. When the affection is established, rest is imperative. Then, also, local treatment, consisting of dry cups, deep massage, and the faradic current, should be instituted; and if the salicyl compounds and their numerous succedanea have failed, successful resort may be had to iodine. This drug has been found most efficient in its combination with a vegetable protein. F. P. Henry (Medical Record, January 17, 1914).

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Ozena, Use of Sugar in.—Used in the form of a powder insufflated into the nasal cavities, sugar yields excellent results in ozena. It prevents the formation of toxic decomposition products, excites a watery secretion, and inhibits the excretion of fibrin, thus preventing the production of sclerosis and the disappearance of lymphoid tissue. For the first week or two the treatment should be carried out by the surgeon. All crusts are removed from the nose, being softened, if necessary, by means of hydrogen peroxide or a solution of sodium bicarbonate. The patient should also be taught how to use the syringe: The nozzle must be inserted into the nostril after starting the flow, and the patient should hold his head down over a bowl, taking quick breaths through the mouth. At least a pint of lotion should be used three times daily.

After removal of the crusts the mucous membrane should be massaged with a cotton-tipped probe in order to produce congestion. The nostrils are then to be packed with ribbon gauze soaked in simple syrup; the gauze packing is removed in twelve hours. This treatment is repeated on alternate days. At the end of a fortnight insufflation with powdered white sugar is commenced, and this can be carried out by the patient himself. This method, combined with the douching, is simple and entirely satisfactory. The value of sugar in other septic conditions is well known. P. A. Harry (Prescriber, January, 1914).

Picric Acid in the Treatment of Various Skin Lesions. — *Eczema.* — Better results were obtained by the author with picric acid in the acute than the chronic eczemas. Striking improvements was seen in the facial cases with profuse exudation, excoriation, and crusting. In the milder cases an aqueous solution was painted on several times daily and allowed to dry, while in the more severe cases wet dressings of picric acid were applied, held in place by a facial mask. Lessening of the itching and pain was almost immediate. Reduction in the serous exudation and softening of the crusts were equally prompt. Improvement in the induration was rapid, as was the subsequent epithelialization. Such prompt relief was not obtained by any other means.

In the subacute and chronic types of the disease, cure of the lesions was hastened materially by initiating the treatment with two or three days' application of picric acid solution, and then following with the usual ointments of zinc, tar, salicylic acid, calomel, mercury, etc.

Burns. — Results obtained in 2 severe cases showed the efficacy of picric acid in paving the way for the rebuilding of injured tissue. One case was that of a child burned to the third degree from the waist line to the toes of the left lower extremity, with only small islands of first- and second- degree burns occurring in the popliteal space, groins, and calf. Although the skin and subcutaneous tissue sloughed away from the entire left leg, exposing the bone in places around the ankle and foot, complete epithelialization was obtained without skin grafting, and normal function of the limb restored.

Intertrigo.—Picric acid solution was painted on the surfaces involved and they were kept from coming into contact with thin layers of absorbent cotton. In the more severely infected cases wet dressings were used. Cures were effected in about half the time taken in similar cases treated with ichthyol solutions.

Erysipelas.—Results in this condition were not uniformly successful, but in certain ways they were more satisfactory than those of any other method. The discomfort and pain were relieved more quickly and the edema disappeared rapidly. In several cases desquamation in cast-like masses followed the use of picric acid, leaving healthy skin beneath. A reduction in temperature in these patients was the rule, occurring with or without marked improvement in the local condition.

Herpes Labialis. — A more rapid drying of the lesion and fewer extensions of the trouble were obtained with picric acid than with any other method used.

Ringworm.—Ringworm of the scalp did not respond more rapidly than to other methods of treatment; body ringworm was more easily controlled by painting on picric acid solution than with the usual antiseptic ointments.

Psoriasis.—Immediate and constant relief from itching; otherwise no particular response.

Vaccination.—A few cases treated with applications of picric acid from the start ran a normal course, did not become infected, and showed very little local reaction. Several badly infected vaccinations treated with the acid made very rapid recoveries. H. B. Wilcox (Archives of Pediatrics, November, 1913).

Poliomyelitis, Early Diagnosis of. — Description of a hitherto unobserved preparalytic symptom consisting of a peculiar twitching, tremulous, or convulsive movement of certain groups of muscles, lasting from a very few seconds to somewhat less than a minute. The amplitude of vibration is greater than in a tremor, not so constant and long as in a convulsion, and more regular than in a mere twitching, yet it has in it some of the elements of all. It usually affects a part or the whole of one or more limbs, the face, or the jaw, but it may sometimes affect the entire body. The symptom may easily be overlooked in the beginning, as it usually lasts less than a second at that time and does not recur, unless the patient is disturbed, oftener than every hour or so. Later the duration of the spells lengthens, first to a few and then several seconds, and at the same time the intervals become shorter. The condition is often accompanied by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement resembling a chill, during which the child is apparently unconscious, with eyes set, for a few seconds. This short spell of unconsciousness may also occur without noticeable convulsive movements. J. A. Colliver (California State Journal of Medicine, November, 1913).

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Poliomyelitis, Epidemiology of.— The conclusion that susceptibility to poliomyelitis is comparatively rare, and that the incidence of the disease is limited chiefly by a general immunity rather than by a restricted dissemination of the virus, is reached primarily by exclusion, since no other hypothesis yet advanced satisfactorily explains the epidemiologic peculiarities of the disease. The conclusion is, however, greatly strengthened by direct evidence, viz., the demonstration of the virus in the secretions of well persons.

The greater immunity of adults to the disease may be due to a nonseptic resistance, developing naturally with maturity. Certain facts, however, suggest that the immunity of adults may be specific, *i.e.*, acquired from previous unrecognized infection with the virus of poliomyelitis. These facts are: 1. Poliomyelitis is known to occur in forms quite difficult to recognize clinically. There is reason to believe that even during epidemics the number of cases without paralysis exceeds the number of paralytic cases. The occasional development of typical paralysis without any distinctive premonitory or accompanying constitutional disturbance illustrates how insidiously the disease may run its course. 2. The perennial occurrence of sporadic cases shows that the infection is and has been endemic, at least in this country, for a number of years. 3. The spontaneous decline of epidemics in localities where only a very small percentage of the population have been attacked, and the subsequent immunity of these localities while the epidemic spreads in contiguous localities suggests that a population may be immunized by an epidemic giving rise to only one recognized case of poliomyelitis among several hundred or several thousand inhabitants. A striking illustration is the Swedish epidemic of 1911, which spared the localities chiefly affected in 1905, while attacking most severely localities imme-

diately contiguous. 4. The immunity of adults appears to be, in this country at least, relatively greater in large, thickly populated cities than in smaller towns and especially remote rural sections. In large cities cases during epidemics are confined more exclusively to children under 5 years of age, suggesting that dwellers in large cities have been more generally immunized in early life than those living in rural sections. The same conclusion is suggested by the fact that in rural districts the total incidence of epidemic poliomyelitis is characteristically higher than in large cities. 5. The hypothesis that poliomyelitis can be very generally endemic and yet often escape recognition is supported by some fairly close analogies. Typhus fever undoubtedly did exist endemically in New York and other cities for a number of years without being recognized. The same is probably true of pellagra and undoubtedly true of uncinariasis in the United States. Yellow fever occurs endemically and perennially in some places almost unnoticed, the case being apparently confined to newcomers and young children. Measles, while almost exclusively a disease of children, attacks adults and children alike when introduced into territory that has long been free from the infection. Wade H. Frost (United States Public Health Service, Hygienic Laboratory Bulletin No. 90, October, 1913).

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Psoriasis, Protein Metabolism in. —In a careful study of the protein metabolism of 8 psoriasis patients, the authors observed that on a given protein diet a psoriatic subject eliminates less nitrogen in the urine than does a normal individual on a corresponding diet. The urinary nitrogen in some of the patients reached a level lower than has ever been recorded. Patients with psoriasis exhibit a remarkable retention of nitrogen, which appears to be proportional, in a general way, to the extent and severity of the eruption present. The nitrogen is retained to a greater degree than has been observed in connection with any other condition and is, furthermore, retained with great ease even on a diet low in nitrogen and insufficient in caloric value, and one on which a normal individual would fail to maintain equilibrium.

Experiments with urea feedings show conclusively that the nitrogen retention cannot be attributed to any disturbance in the eliminative capacity of the kidneys. Patients with extensive psoriasis may lose very large amounts of nitrogen in the exfoliated scales, which consist of almost pure protein, but the retention of nitrogen in most of the cases was greater than could be accounted for by the protein lost in the scales, and it sometimes persisted even after scaling had ceased and the eruption had virtually disappeared.

A low nitrogen diet has a most favorable influence upon the eruption of psoriasis, particularly when the latter is extensive. There can be no doubt that severe cases of psoriasis improve under such a diet, almost to the point of disappearance of the eruption. Conversely, a high nitrogen diet exhibits an unfavorable influence on psoriasis, commonly causing an extension of the eruption. Whether a high nitrogen diet can stimulate an outbreak of psoriasis in

a psoriatic subject who is at the time free of the eruption has not yet been determined.

The great proliferation and exfoliation of cells by the skin in psoriasis demand a large supply of protein, which can only be procured from the lymph- and blood- streams. This protein supply may be derived from the ingested food, and a possibility exists that the great demand of the diseased skin for protein may also be satisfied by the protein reserve in muscle tissue, which thus may become depleted and later require restoration. This would explain the ready and persistent retention of nitrogen in these cases. A protracted, low protein diet may diminish the proliferative activity of the skin by diminishing the supply of the principal building material, namely, protein. On the other hand, a high protein diet may stimulate the proliferative activity of the cells by furnishing an abundant supply of the necessary protein. J. F. Schamberg, J. A. Kolmer, A. I. Ringer, and G. W. Raiziss (Journal of Cutaneous Diseases, October and November, 1913).

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Syphilis, the Noguchi Luetin Reaction in.—It is in the earlier stages of syphilis that the highest percentage of positive results is obtained with the Wassermann test, while in the later stages the lipotropic substances upon which a positive reaction depends are frequently not present in the serum, owing to fluctuations in the activity of the spirochetæ induced by treatment, or to the production of antibodies which neutralize these lipotropic substances. On the other hand, these fluctuations in the activity of the spirochetæ favor the development of the state of allergy or anaphylaxis, which must be induced before the skin will react to the injection of luetin. Thus, a positive Wassermann test indicates the presence of metabolic substances in the serum due to present or recent activity of numbers of spirochetæ on the tissues, while a positive luetin reaction is indicative of a state of hypersensitiveness to the specific proteins of the spirochetæ, induced by a period of cessation of the introduction of these proteins prior to the injection of the luetin.

The cases which reacted most intensely to the luetin in the author's series were, as a rule, those in which the Wassermann test was negative and *vice versâ*. The luetin test is valuable as a diagnostic measure in the tertiary and latent stages of syphilis, but its greatest value, according to the author's experience, appears to be in the prognosis. Among 70 cases of undoubted syphilis, practically all of which had been treated, in all but 4 either clinical evidence, a positive Wassermann test, or a positive luetin reaction showed that the syphilitic infection had not been entirely suppressed. It seemed reasonable to assume that these 4 cases had been definitely cured. A provocative injection of salvarsan, followed by the application of both Wassermann and luetin tests, is suggested as a rational means of determining whether treatment has been sufficiently intensive to effect a cure. G. B. Foster (American Journal of the Medical Sciences, November, 1913).

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Tonsillectomy, a Method of.—The writer describes a method which he

has found most efficient in a series of 250 cases. The gas and ether sequence, or ether by the open method, is used in the introduction of anesthesia. The latter is then carried on by the administration of warm ether vapor passed into the mouth through a tube attached to the mouth-gag. In this way the operation is performed without interruptions and the throat easily kept clear of blood.

In commencing the operation proper, the tonsil is seized with an ordinary tonsil forceps and drawn forward. An incision is made through the mucous membrane of the anterior pillar at its margin, to expose the capsule of the tonsil. A separation is then made between the anterior pillar and the capsule. It is carried upward over the upper pole of the tonsil and then downward between the posterior pillar and the tonsil. By the use of a blunt dissector the tonsil is entirely freed from the pillars and remains attached only by its base. A snare is then slipped over it and, following the line of least resistance, cuts through the connective tissue, uniting the capsule to the surrounding tissues. When the tonsil has been removed a gauze sponge is placed in the fossa, and pressure may be placed upon it while the other tonsil is being removed in a similar manner. Usually this pressure is sufficient to control hemorrhage. If not, the bleeding point is picked up with hemostatic forceps and crushed, or a ligature passed around it.

The operation is quickly performed, there is no danger of damaging the pillars, and the possibility of postoperative hemorrhage is reduced to a minimum, not 1 of the 250 cases presenting the slightest indication of postoperative hemorrhage. P. B. Macfarlane (Canadian Practitioner and Review, October, 1913).

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Tracheobronchial Glands, Diagnosis of Enlargements of.—In a study of 38 cases in regard to the diagnostic value of vertebral percussion in the tracheobronchial enlargements frequently met with as sequelæ of pertussis, measles, and tonsillitis and as a result of tuberculosis, the author found that in simple enlargement of these glands percussion of the thoracic vertebræ, especially above the level of the inferior scapular angles, usually affords tonal changes of real clinical value if properly interpreted. These changes, more often corroborative than primarily diagnostic, invariably should be correlated with the mural signs of the individual case.

In uncomplicated adenopathies hyporesonance with maximum tactile resistance and hyperresonance with minimum tactile resistance may have precisely the same significance. To explain this seeming paradox it is to be assumed that in the former instance the mass exerts a dulling pressure, and that in the latter it conducts the predominant tracheal tone. In glandular enlargements associated with pleuropulmonary lesions, emphysema and pleural adhesions are to be reckoned with as additional factors of hyperresonance and hyporesonance respectively.

In comparison with other (neoplastic) mediastinal masses, tracheobronchial tumors affect the vertebral percussion sound to a minor degree and more often produce dullness than hyperresonance. This general rule has a restricted clinical bearing in the

differentiation of adenoid and malignant tumors.

In routine examinations ordinary mediate finger percussion is preferable to instrumental pleximeter percussion in studying vertebral changes of sound. The latter method gives no surer clue to tonal changes than the bare fingers, and obviously forbids all judgment of tactile resistance. J. C. Da Costa, Jr. (American Journal of the Medical Sciences, November, 1913).

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Vaccination, Arrest of, at the Vesicle Stage.—In chicken-pox the usual eruption stops at a vesicle, which by intelligent practitioners is freely opened and the site of the vesicle dressed with antiseptics to prevent pustulation. Why should a pustule, the author asks, be necessary for vaccination, if it is not necessary for small-pox or for varicella?

Extraordinary precautions are used in securing bovine vaccine lymph to make sure that the vesicles are broken and the lymph removed before the content of the vesicle becomes cloudy. If vaccinia in the heifer is complete enough to be reinoculable from the lymph in a clear vesicle, is it not logical to conclude that vaccinia is complete in the human subject at the same stage?

The author proposes that the vaccination process should stop at the vesicle, and, in order to make sure of this, the physician should purposefully break the vesicle and treat the site antiseptically. This practice the writer has followed for nearly twenty years, with satisfaction in the knowledge that the proverbial "sore arm" is prevented and the scar of vaccinia either avoided or reduced to a minimum. Vaccination should be based upon the following technique:—

1. Clean the area thoroughly with soap and water; follow with alcohol sponging. Be sure the alcohol dries off well, so as to leave the area aseptic, but not antiseptic.

2. Vaccinate by any aseptic method; the writer usually employs the point coming with the glycerinized vaccine and the area is scarified.

3. Cover the area of vaccination at once with sterile cotton and hold in place with collodion. A shield may be used over this dressing to prevent its removal.

4. Conduct the vaccination as any other surgical case. Have the patient return on the third, fifth, and seventh days. If there are no symptoms of itching, or of pain, do not remove the dressing until the fifth or seventh day. On the day the dressing is removed, if there is no sign of vesiculation, reapply sterile dressing as before. On the seventh day, look again for the vesicles; if none, repeat dressing. Do this every two days until the tenth or twelfth day. If no vesicles show, revaccinate and proceed as before.

5. If the vesicle shows at any dressing, brush the surface with tincture of iodine, or with pure alcohol, then carefully snip the top off of the vesicle with a pair of sterile scissors. Paint the base of the vesicle with a 30-grain-to-the-ounce solution of nitrate of silver, or with pure phenol (followed with alcohol). Put on a sterile dressing or an antiseptic dressing. Change the dressing every two days.

At the end of four or six days, there is a dry crust (not pustulating).

Now the patient can take care of the wound, with a dressing of ichthyol (20 grains), phenol (10 grains), ointment (oxide of zinc ointment, 1 ounce), changed night and morning.

The evils of vaccination, particularly those incidental conditions following the pustulating arm, are prevented by such a procedure. There can be no impetigos, and erythema multiforme and its congeners cannot result from pus absorption. Isadore Dyer (American Journal of Tropical Diseases and Preventive Medicine, December, 1913).

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Vomiting, Treatment of. — The author reports the cure of a severe case of vomiting of pregnancy by the administration of $\frac{1}{36}$ grain (0.0018 Gm.) of apomorphine in a teaspoonful of water. He has used this measure in other cases of vomiting or nausea with like good results. In the minute quantities employed the drug quiets the inflamed gastric mucosa and produces no ill effects. M. Field (Journal of the American Medical Association, November 1, 1913).

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Whooping-cough, Treatment of.— The earliest phase of whooping-cough presents, according to the author's observations, merely the appearance of a pharyngitis, which may or may not be accompanied by coryza. A 2 per cent. solution of silver nitrate was applied by him to the throat in 95 cases for the purpose of preventing the spread of the infection downward, and in 84 instances most useful results were evident. Secretion of mucus was prevented through the caustic action of the silver and coughing spells due to irritation by the secretions therefore minimized. In addition, a beneficial effect was produced on the child by suggestion. At the end of a week the coughing paroxysms were about the same as before, but their severity was much diminished, and they gradually subsided into cough of the ordinary type. In infants the author applied the silver nitrate every day at first, later, and in older children throughout, on alternate days. Hydrogen dioxide was also employed. Ochsenius (Therapie der Gegenwart, November, 1913).

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Wounds, Treatment of.—To promote granulation in large wounds, the author directs his patients to expose the surface to a stream of air from an ordinary electric fan or register. The wound surface promptly becomes dry as a result of the evaporation caused by the current of air, and healing occurs with notable rapidity. The measure was found especially serviceable in promoting healing of obstinate leg ulcers and discharging eczema. According to the author, a stream of air at the ordinary temperature acts as well as the douches of heated air recommended by previous writers for similar purposes. A. Heisler (Münchener medizinische Wochenschrift, November 4, 1913).

Clinical Summary

Practical hints from articles and abstracts that have appeared in the Monthly Cyclopedia and Medical Bulletin during the current year.

Acne. TREATMENT. Acne vulgaris in childhood or adolescence responds well to thyroid treatment. Thymus employed with advantage in cases with enlarged thyroid and rapid heart. *Morris.* Page 11

Acromegaly. TREATMENT. Case of acromegaly in which thyroid treatment caused headache, dizziness, vomiting, and melancholia to disappear, while pituitary treatment always caused their return. *Salomon.* 30

Amenorrhea. TREATMENT. In amenorrhea, flooding, dysmenorrhea, etc., mammary extract treatment often proves corrective. *Berkeley.* 20

In amenorrhea, relative or absolute, ovarian extract considered best remedy by author. *Bandler.* 91

Anemia. TREATMENT. Joint administration of ovarian extract with iron and arsenic in anemias, including chlorosis, in females, recommended. *Bandler.* 91

Arthritis Deformans. TREATMENT. Gradual but permanent improvement noted in a number of cases after administration of thymus extract. Pain and swelling disappear and appetite returns. Nucleoproteid extract much preferable to crude gland. Treatment should cover several months, and small doses be continued for some time after apparent cure. *Berkeley.* 20

Bronchopneumonia. TREATMENT. Hot baths, followed by brief cold affusion, in acute bronchitis, bronchiolitis, and bronchopneumonia in young children reduce fever, stimulate expectoration, deepen breathing, exert soporific effect, improve appetite, stimulate elimination through skin, and seem to act specifically in shortening disease. Bath water is at 41° C. (105.8° F.), hot water being added as cooling occurs. Patient is bathed every three hours, up to 5 times a day. Baths particularly appropriate for feeble children who became chilled at periphery with internal temperature high. The weaker the child and higher the fever, the more frequently baths are given. Where the temperature not above 39° C. (102.2° F.), ten-minute bath is given 3 times a day. Hot bath is not contraindicated where temperature exceeds 40° C. (104° F.) in infants or very young children, though for older children warm baths may be substituted. At conclusion of each bath nurse elevates child from hot water so back of neck is exposed, and cold water is dashed once over neck, causing reflex gasp for breath. Child is next reimmersed momentarily in hot water and cold water poured on chest, after which he is dried, wrapped in warmed clothes, and placed in warmed bed. Baths to be continued once daily into convalescence if patient coughs. *Arneth.* 55

Constipation. TREATMENT. Constipation and rectal irritation in neurasthenics greatly benefited by the perineal and anal douche, hot as can be borne, followed by cold douche at 60° to 50° F.; stronger revulsive effects are obtainable with an alternate hot and cold application. *Pope.* 50

Delirium Tremens. TREATMENT. (1) Withdraw cerebrospinal fluid by lumbar puncture in amounts as large as possible—50 to 60 c.c. (2) Inject with syringe an equal amount of sterile 1 per cent. sodium bromide solution. Immediate improvement in delirium usually occurs, followed by temporary return and then permanent disappearance of delirium. Relapse occasionally after a few days; usually controlled by repetition of injection. *Kramer.* 110

Diabetes Mellitus. TREATMENT. Therapeutic value of an "easy nitrogenous diet" pointed out, *i.e.*, of one consisting almost exclusively of milk and its derivatives, cereals, fruits, and vegetables. Such a diet partially takes off burden of nitrogenous metabolism from liver and tends to relieve its instability as regards glycogenic function, therefore often causing glycosuria to disappear. *Cornwall.* 110

Dysentery, Bacillary. TREATMENT. In acute form: (1) Rest and warm covering; (2) only small amounts of food at a time; (3) calomel at the outset; (4) acid drinks; (5) enemata of saline or soda solution or of methylene blue. In chronic form: (1) Rest; (2) enemata of 1:500 or 1:1000 silver nitrate, 0.25 to 0.5 per cent. tannic acid, 1:500 or 1:1000 thymol, 1 to 2 per cent. resorcinol or creolin, or enemata of gum arabic mixed with bismuth subgallate or iodoform; (3) phenyl salicylate, tannigen, ichthyol, or calomel internally; (4) serum treatment, 10 c.c. in mild cases, 10 c.c. twice at six- to ten- hour interval in medium cases, and 40 to 60 c.c. in severe cases, not exceeding 20 c.c. at a time when serum used daily; (5) appendicostomy or cecostomy with irrigation in severe cases. *Bassler.* 111

Eclampsia, Puerperal. TREATMENT. Report of 2 cases in which pituitary extract injections—2 in each patient—yielded successful results, labor being brought on thereby. *Schlossberger.* 28

Eczema. TREATMENT. Both chronic and acute forms respond to thyroid treatment. Fat subjects and those with xerodermia respond best. *Morris.* Page 11

Edema, Angioneurotic. TREATMENT. Pituitary and adrenal preparations found useful. *Morris.* 11

Erysipelas. TREATMENT. In severe erysipelas a single small vaccine inoculation,—5 million,—preferably of autogenous vaccine, will usually cause a critical fall of temperature, and a second or third dose at about five days' intervals generally completes resolution. *Whitfield.* 56

In facial erysipelas: Have beside bed bowl of boric acid solution in which ice is placed. Keeping cloths frequently moistened with the solution continuously on face effectually relieves pain and burning. Where leg or arm involved: Wet dressings of boric acid or aluminum acetate. In migratory cases: Ichthyol may be applied or surfaces painted with picric acid solution. *Erdman.* 112

Furunculosis. TREATMENT. Where boil already soft: (1) Paint tincture of iodine freely over and around it; if several lesions close together, paint over entire area. (2) Place gauze pad with 10 per cent. ichthyol in petrolatum over the area, cover with a little cotton, and hold with bandage. (3) Next day, remove pus, wipe with benzine, and reapply iodine and ichthyol. (4) When pus entirely absorbed, discontinue iodine, but apply pure ichthyol. (5) To activate epithelial growth where necessary: Argenti nitratis, gr. xv (1 Gm.); balsami peruviani, gr. lxxv (5 Gm.); adipis lanæ hydrosi, ʒiiiss (100 Gm.).—For a furuncle not yet softened: (1) Apply iodine. (2) Thick coating of ichthyol, to be allowed to dry on or covered with a little absorbent cotton and gummed adhesive. (3) Next day, wipe off ichthyol with warm water or if possible wash area with soap and water, and reapply iodine and pure ichthyol. (4) Stop iodine on third or fourth day, continuing ichthyol till all inflammation subsided. Single layer of gauze, tissue, or cigarette paper may be applied when ichthyol has dried. *Berger.* 113

Goiter. TREATMENT. Vaccines prepared from coliform bacilli of patient's own bowel administered in 8 cases of parenchymatous goiter, with disappearance of enlargement in one and diminution in the others. Initial dose usually 125 million, later increased, upon diminution of size of goiter, by 25 or 30 million weekly. Injections given weekly. *Langmead.* 23

Salicylates, creosote carbonate, menthol, thymol, etc., are helpful after the intestinal functions have been regulated. In nodular, cystic, colloid, fibrous, and intrathoracic goiters, iodine is seldom of value and sometimes dangerous. *Sajous.* 1

Goiter, Exophthalmic. TREATMENT. Ligation of thyroid vessels and sometimes a portion of the gland is indicated (1) in patients with mild symptoms of hyperthyroidism; (2) in the large group having acute, severe exophthalmic goiters, and the chronic, very sick patients who, having exhausted all forms of treatment, are suffering from various secondary symptoms, and (3) in cases with marked pulsation and thrill of thyroid arteries associated with cardiac dilatation and loss of weight. Thyroidectomy later advisable, to prevent relapse to former condition. Should trouble recur before a partial thyroidectomy is made, or a severe relapse after partial extirpation, inferior thyroid artery should be ligated and half of remaining lobe removed when improvement occurs. *Mayo.* 16

In early and mild cases in virgins, author begins treatment with corpus luteum, which is useful as antidote to thyroid intoxication. *Berkeley.* 20

Report of cases improved by administration, for several months, of 20 to 30 Gm. (5 to 8 drams) of quinine divided among twenty days in each month. *Gaultier.* 90

Gonorrhea. TREATMENT. Iodine treatment gave excellent results in gonorrhea in the female: (1) Swab external genitals with a 3.5 per cent. solution of iodine in alcohol; (2) force a few drops of same solution in orifices of Skene's and vulvovaginal glands through blunt hypodermic needle; (3) with patient in Sims's position, insert Sims's speculum, swab vagina dry with cotton, and paint cervix with iodine solution; (4) swab posterior vaginal *cul-de-sac* and wall; (5) introduce narrow strip of gauze high up against posterior wall, and remove speculum; (6) give hexamethylenamine, 5 to 7½ grains (0.3 to 0.5 Gm.) four times daily in plenty of water. Where cervix and uterus chronically involved: (1) Paint cervix with iodine; (2) grasp anterior lip with volsellum and remove any stringy discharge; (3) insert small uterine sound if required; (4) introduce intrauterine syringe to fundus and instill 1 dram (4 c.c.) of iodine solution while withdrawing; (5) treat vagina as in acute cases. Repeat applications every third day in both acute and chronic forms. In all cases order hot douches of 4 to 6 quarts (liters) of hot saline two to four times daily, always followed by a 1-quart (liter) injection of 1:5000 permanganate or 1:250 picric acid. *Hofmann.* 48

Gonorrheal Vaginitis of Children. TREATMENT. Mixed autogenous vaccines of gonococcus and usually staphylococcus, streptococcus, diplococcus, colon bacillus, etc., used in 40 cases with uniformly good results. Average number of injections required for cure, 7. Initial dose, 25 to 50 million, then gradually increased. Interval between injections not less than five nor more than seven days. If after six weeks case still needs treatment, as shown by examination of dis-

charges, a second vaccine should be made. *Wolff.* Page 49

Headache. TREATMENT. In headache or head pressure in nervous fatigue a fomentation applied for five or ten minutes twice, and followed by a cold compress, is effective. If headache is congestive, use hot foot bath, followed by ice-bag to nape of neck and cold compress to forehead. Sitz baths at 90° F., or cold foot baths, often relieve. *Pope.* 50

Hemorrhage, Cerebral. TREATMENT. Venesection used with good results and recommended in cases of apoplexy in full-blooded patients with blood-pressure of 200 mm. or more. Amount of blood let in author's cases, 12 to 48 ounces. Where vein at elbow not easily found in stout persons, there are usually varicose veins in legs which can be opened. *MacFarlane.* 121

Impetigo. TREATMENT. In exceptional cases which do not yield to local measures, a few staphylococcic vaccine inoculations—usually, in fact, a single one—will cause prompt cure. *Whitfield.* 56

Insomnia. TREATMENT. In nervous fatigue (neurasthenia) this symptom is best met by cold pack or dripping-sheet at bedtime, or by the trunk compress, consisting of a coarse linen bandage wrung out of water at 65° F. and covered by several layers of same material to exclude air; it should be worn all night. Excellent also is the neutral bath at 94° to 96° F. for from twenty to sixty minutes. *Pope.* 50

Intestinal Motor Inactivity. TREATMENT. Pituitary extract recommended. Injection of 3 c.c. in adults causes evacuation in 88 per cent. of cases in from six to twenty minutes. Usually constipation later recurs, but often a single injection will induce several stools on same day and keep bowels regular for a day or two after. The extract is valuable for prophylaxis and cure of postoperative intestinal paresis. Continued, it tones up intestine and also stimulates stomach motility. For lasting effect, inject ½ c.c. intramuscularly every day for a week, then 1 c.c. every three days for another week, and thereafter 1½ c.c. once weekly. *Houssay and Beruti.* 27

Intestinal Stasis, Postoperative. PROPHYLAXIS. Harmful effects of abrasion of visceral peritoneum in operations can be overcome by introducing 6 ounces (180 c.c.) of sterilized mineral oil in abdomen and sponging it over coils of intestine. *Burrows.* 52

Lupus Erythematosus. TREATMENT. Benefit followed use of adrenal substance in this condition. *Morris.* 11

Lupus Vulgaris. TREATMENT. Where Finsen light not available, old tuberculin is capable of great service. Begin cautiously; then make steep rise in dose as soon as one dose ceases to call forth reaction. *Whitfield.* 56

Myasthenia Gravis. TREATMENT. Pituitary extract, combined with ovarian, found useful in 2 cases. *Lagane.* 85

Obesity. TREATMENT. Colloidal hydroxide of palladium, suspended in olive oil and liquid paraffin in proportion of 25 mg. of palladium to 1 c.c., caused marked loss of weight, without untoward action except some local irritation, in 2 cases of obesity. Dose, 2 c.c. of suspension, injected under skin of abdomen. *Kauffmann.* 116

Paralysis Agitans. TREATMENT. Good results from administration of thyroid and parathyroid preparations with calcium chloride. *Gauthier.* 86

Perinephric Abscess. DIAGNOSIS. Pain referred to lower limb of same side found of considerable diagnostic value. There are both pain and tenderness, particularly marked along external cutaneous nerve just below anterior superior spine and on external aspect of thigh. *Belikov-Chtomitch.* 117

Pneumonia. TREATMENT. Ethyl hydrocupreine hydrochloride given internally in pneumococcic lung inflammation, with good results. Dose usually 0.5 Gm. (7½ grains) *t. i. d.*, daily amount not exceeding 1.5 Gm. (23 grains). In 9 cases no other medication was employed: in all of these temperature fell more rapidly, by crisis or lysis, than with other methods. No untoward after-effects. *Vetlesen.* 118

Psoriasis. TREATMENT. Thyroid preparations found especially efficacious in psoriasis associated with adiposity. They should not be exhibited until eruption is fully developed. *Morris.* 11

Puerperal Fever. PROPHYLAXIS. Whenever irrigation of vagina with boiled water through speculum yields a yellowish fluid, one should irrigate once daily for at least ten days with a 1:200 solution of lactic acid. Morbidity thereby reduced from 28.6 to 7.6 per cent. Full baths to be avoided before delivery. *Zweifel.* 54

TREATMENT. Intravenous injections of distilled water given in 142 cases of puerperal fever. Of 62 patients with pyemia and septicemia, 42 were cured. In an hour or hour and a half after an injection there is usually a chill, with rise in temperature. By evening or the following morning temperature will have fallen to normal, sweating usually accompanying the drop. *Ilkewitsch.* 53

Rabies. TREATMENT. Potassium iodide in 2 per cent. solution, 1 tablespoonful or dessertspoonful at frequent intervals throughout course of preventive injections, recommended as adjuvant in treatment. In 3 cases of abortive rabies symptoms promptly disappeared after use of potassium iodide. Advocated especially in cases where infection has existed in latent condition for some time. *Koch.* 55

Retention of Urine, Postoperative. TREATMENT. Pituitary extract injected intramuscularly in 21 puerperal and 24 postoperative cases with excellent results. *Ebeler.* Page 91

Sciatica. TREATMENT. Eight cases treated by injections of 4 per cent. quinine and urea hydrochloride in salt solution into subcutaneous tissue over course of nerve. Fifty injections in all, without untoward results. Always decided relief after first injection and no further attack after third. Injections daily for 4 doses, then every other day until patient entirely relieved. Two cases of facial neuralgia also treated, with complete relief after second injection. *Cables.* 119

Tuberculosis, Pulmonary. DIAGNOSIS. Contrast between resonance of air-containing tissue and deadness of the airless spot is striking when light percussion practised. If on increasing force of stroke dullness remains, one may conclude that there is an extensive area of airless tissue. A shorter apex on one side is of immense significance. In infiltrated apex a long, held inspiration gives a duller note on percussion than is found over healthy side; this is often of value in doubtful cases. Where history, symptomatology, and course of disease point to tuberculous infection, one may safely diagnosticate tuberculosis without any definite auscultatory signs. *Fishberg.* 54

TREATMENT. Frequency of gastric atony and dilatation, with resulting digestive symptoms and secondary toxic manifestations (aches and pains in chest and right hypochondrium, morning depression, insomnia, hepatic weight, vertigo, chilliness an hour after meals, fleeting edema, etc.), in pulmonary tuberculosis pointed out. Treatment: (1) Support to stomach and abdomen by Rose belt of plaster or moleskin, followed, upon improvement, by supporting belt to be worn continuously and later in daytime only. (2) No liquids with meals or for two to two and one-half hours after. (3) Lunch to be light. (4) Recumbency, with attempt to sleep for one-half to one hour after each meal. (5) No alcohol or fresh bread. (6) Medicinal treatment: Tr. nucis vomicæ, acidi hydrochlorici dil., āā f℥ss (15 c.c.); glyceriti pepsini, f℥iss (45 c.c.); aq. menthæ pip., q. s. ad f℥iij (90 c.c.). Teaspoonful in ½ glassful of water after meals. If much flatulence, add chloroform water, 2 or 3 minims (0.13 or 0.2 c.c.) to the dose, until relieved. (7) Cold shower or sponge baths, with needle bath to abdomen, followed by brisk rub, each morning. (8) Where mucous passages and flatus: Turkish towels, wrung out in hot water, to be applied to abdomen for one-half hour after meals. (9) Thorough mastication of food and abstention from worrying at meals. (10) Fats to be avoided at first. *F. N. Robinson.* 95

Measures to overcome fever described: (1) Where prolonged fever drains on patient's strength, pyramidon is drug to be preferred—5 grains (0.3 Gm.) in cachet at night, or, if necessary, three times a day. In neurotics bromides sometimes efficacious. (2) Rest in recumbency to be insisted on until temperature does not rise above 99° in men or 99.2° in women, when patient may sit in chair for two hours, then recline on couch, in open air if possible. Exercise then gradually increased. (3) Where severe cough, sedative mixture tends to prevent fever from the exertion and autoinoculation. (4) Where rest and drugs fail, cautious use of tuberculin (T. R. or B. E.), beginning with only $\frac{1}{100000}$ mg., exerts antipyretic action, though often only for short periods. Tuberculin acts best in cases free from fever while at rest, but febrile when exercise taken. *Wethered.* 120

Ulcer, Gastric. DIAGNOSIS. Following combinations practically assure a diagnosis of ulcer: (1) Tender point with occult blood. (2) Hypersecretion with tender point. (3) Hypersecretion with occult blood. (4) Tender point with repeated positive thread tests. (5) Tender point with hematemesis. (6) Hematemesis with hypersecretion. (7) Hypersecretion with positive thread tests. *Verbrycke.* 114

Ulcers. TREATMENT. In indolent tuberculous ulcers, 1 or 2 doses of old tuberculin usually cause complete healing in a week or two. *Whitfield.* 56

Urticaria. TREATMENT. Pituitary and adrenal preparations found useful. *Morris.* 11

Vomiting. TREATMENT. In paroxysmal vomiting of chronic, recurrent character, where no organic disease of stomach is discoverable, adrenal gland treatment is frequently of value. *Berkeley.* 20

Vomiting, Postanesthetic. TREATMENT. When vomitus of hemorrhagic type, give 5 to 10 minims (0.3 to 0.6 c.c.) of 1:1000 epinephrin hydrochloride in a teaspoonful of water. Cessation of vomiting follows. *Keay.* 93

Whooping-cough. TREATMENT. Vaccine containing 20,000,000 dead *B. pertussis* per c.c. used in about 70 cases. Infants received ⅓ c.c. as initial dose and ⅔ c.c. four days later; others, ½ c.c. and 1 c.c. Prompt, uniformly good and often striking results obtained. In cases already having a bronchopneumonia as complication, a mixed vaccine should be used. *Davidson.* 118

Book Reviews

Diagnosis of the Malignant Tumors of the Abdominal Viscera. By Rudolph Schmidt, Professor of Medicine in the University of Innsbruck. Authorized English Version by Joseph Burke, Sc.D., M.D., Attending Surgeon, Buffalo Hospital of the Sisters of Charity; Consulting Surgeon, Emergency Hospital, Buffalo, N. Y. Octavo of 361 Pages. New York: Rebman Company, 1913. Cloth, $4.00.

To choose the right path between two extremes of possible error in chronic intra-abdominal disease, viz., recognition of its malignant nature too late for operability and subjection of the patient to a useless operation through erroneous assumption of the existence of malignancy, is often one of the most perplexing problems confronting the practitioner. In going over the completed histories of many cases of this group, Prof. Schmidt became convinced that an early diagnosis in most instances would have been possible had it not been for the fact that the medical adviser, through no fault of his own, lacked experience. The book before us, based on many years of special study of the subject in the late Prof. Neusser's clinic, was, therefore, written with the especial intention of forearming the general practitioner in this particular field of diagnosis. In the preliminary general portion of the book are considered the essentials of physical and X-ray examination, testing for blood in the feces, examination for sarcinæ, Boas-Oppler bacilli, etc., Ehrlich's diazo and aldehyde reactions, general symptomatology, etiology of malignant tumors, important factors in the taking of case histories in these cases, prophylaxis, and local and general hygiene. In the succeeding special part, malignant tumors of the various abdominal viscera are systematically considered, the following subheadings appearing in reference to each organ: Early symptoms; physical examination; accompanying symptoms from other organs; types of disease, course, and duration; suspicious factors and differential diagnosis. The subjective phenomena so frequently the forerunners of objective findings in these cases are discussed in especial detail. Efforts at cancer diagnosis by serum reactions, as in Brieger's antitrypsin determination, Pfeiffer's anaphylaxis test, Ascoli's meiostagmin reaction, etc., are not deemed of sufficient import to be noticed—and rightly so as it happens, for Abderhalden's more recent contributions bid fair to render the earlier efforts in other directions superfluous. The second half of the book is occupied by a series of case histories referring successively to malignant growths of each of the abdominal viscera, and thus presents a summary of the author's actual clinical experience. A brief critical discussion terminates the recital of each case. On the whole, the book should prove of great assistance to its readers in the early differentiation of malignancy from other chronic intra-abdominal conditions. Dr. Burke is to be congratulated on having achieved the translation of so valuable a work.

The Elements of Bacteriological Technique. By J. W. H. Eyre, M.D., M.S., F.R.S., Director of the Bacteriological Department of Guy's Hospital, London, etc. Second Edition. Rewritten and Enlarged. Octavo of 518 Pages, with 219 Illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $3.00, net.

In the new edition of this very practical book numerous additions have been made representing the advances and novelties in technique brought out since the former edition appeared in 1901. Many new line drawings have also been introduced, and some of the original cuts redrawn. Though purporting to be merely an elaboration of the typewritten notes distributed to the author's classes in applied bacteriology, the book is, as it stands, a decidedly comprehensive presentation of the subject. Of the methods described some are new, others not, but all have been found by the author both reliable and capable of giving satisfactory results even in the hands of beginners. The procedures are so fully described (including the fitting up and adapting of apparatus) as to leave no room for doubt in any of the details of technical manipulation, and the work is thus one calculated to be of value not only to the student in the absence of his teacher, but also to isolated workers in laboratories far removed from centers of instruction. The early sections of the book are taken up with descriptions of apparatus, sterilization methods, the microscope, staining methods, methods of demonstrating bacteria in tissues, classification of the fungi, anatomy and physiology of bacteria, nutrient media, and incubators. The remainder of the work deals in a careful, concise manner with the methods of cultivation, isolation, and identification of bacteria, inoculation methods, immunization, preparation and titration of hemolytic serum, experimental inoculation of animals, blood examinations, agglutinins and opsonins, the post-mortem examination of experimental animals, and bacteriological analyses of water, milk, ice-cream, meats, oysters, sewage, air, soil, etc. The illustrations are an instructive feature of the book, nearly every apparatus described being depicted. The work can be warmly recommended as a clear, reliable introduction to the technical procedures of bacteriology.

A Textbook of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College, Philadelphia, etc. Eleventh Edition, Thoroughly Revised. Octavo of 1335 Pages, with Illustrations. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, $5.50, net; Half-morocco, $7.00, net.

The appearance of the eleventh edition of a textbook attests to a high degree of popularity and, hence, of general utility. An advantage of the present work is that it is revised and reprinted at such short intervals—the first edition appeared in 1897—as to be kept as nearly abreast of recent progress as is possible in a work of its class. Among the additions to the new edition are: McPhedran's and Burke's signs in typhoid fever, phlebotomy and transfusion in hemorrhage in the same disease, hot-air inhalations in diphtheria, Lee's sign in acute articular rheumatism, Iron's method of diagnosis of gonorrheal arthritis, Pastia's sign of scarlet fever, copper salts in dysentery, Erb's syphilitic spinal paralysis, Weil's test in syphilis, vegetable days in diabetes, sugar solution in diabetic acidosis, effect of atophan in gout, radium emanations in gout, salvarsan and sodium cacodylate in progressive pernicious anemia, benzol in leukemia, vaccine in goiter, hexamethylenamine in acute bronchitis, artificial pneumothorax in hemoptysis, diastolic expiration in aneurism, meiostagmin reaction in gastric cancer, etc. Among the new subjects discussed are diseases of the parathyroid gland, auricular fibrillation, auricular flutter, extrasystole, streptococcus tonsillitis, duodenal stenosis, Lane's ileal kink, and status thymicolymphaticus. The sections on antityphoid vaccination, diseases of the thymus, and pellagra have been rewritten, and the part of the book on nervous diseases revised by Dr. C. S. Potts. This work will undoubtedly—and deservedly—continue to rank as one of the very best single-volume texts on medicine.

Die ambulante Therapie der Lungentuberkulose und ihre häufigsten Komplikationen. Ein kurzgefasstes Lehrbuch für Aerzte und Studierende. Von Dr. Karl Blümel, Spezialarzt für Lungen und Halskrankheiten in Halle a. S. Ss. 208, mit Abbildungen im Text und Zahlreichen Temperaturkurven. Berlin und Wien: Urban und Schwarzenberg (New York: Rebman Company), 1913. Paperbound, 6 marks ($1.50).

This book, as its title suggests, is a concise presentation of the subject of tuberculosis treatment, intended particularly for the general practitioner. The author seems to believe that only temporary benefit can be secured for the tuberculous by treatment in special institutions, and this, coupled with the fact that existing institutions can accommodate only a small proportion of the tuberculous (50,000 out of 500,000 cases in Germany), leads the author to recommend that especial attention be paid to improving the home conditions and mode of life, occupation, etc., in tuberculous cases, and to lay stress on the home treatment of these patients. The successive sections of the book deal, respectively, with hygienic-dietetic therapy, specific therapy, drug treatment, surgical treatment, and the treatment of the commoner complications of tuberculosis. Ambulant treatment is contraindicated: 1. In all febrile cases. 2. In patients whose home surroundings would defeat attempts at systematic treatment. 3. In patients whose personal characteristics would lead to the same result. As described by the author, the ambulant treatment consists essentially of an application of the measures usually carried out in special institutions to the home treatment of these cases. He holds that the value of so-called "good air" as a specific against the disease has been overestimated. The customary open-air treatment, however, together with hydrotherapy and full diet, are, however, duly recommended and described. The particular ingestion of fats, and especially of carbohydrates, is advised. Tuberculin treatment should be given along with, and never as a substitute for, the hygienic-dietetic measures. The author goes so far as to state, however, that, in general, there can hardly be an ambulant treatment of tuberculosis without ambulant tuberculin treatment, and that in the interests of the patients it is to be hoped that the time will soon be at hand when all practitioners will learn to use tuberculin. In the sections of the work on drug treatment and the treatment of complications the reader will find much suggestive material, and the book as a whole can be commended as being one possessing a high degree of practical utility.

The General Field

Conducted by A. G. CRANDALL

Acute Indigestion

The mortality from acute indigestion seems to be rising about as fast as that of cancer.

Just why it is that a man perfectly sane and sensible in affairs of business or in his social relations will attempt to carry on a process of personal nutrition with practically no knowledge on the subject is one of the modern mysteries.

A person's efficiency is dependent entirely upon nutrition, and, as efficiency is the greatest factor in the success which he is so earnestly striving to accomplish, it would seem to be a most logical step for him to reason out for himself that he should make a study of the digestion problem, and thus be able to secure the maximum benefit without taking the chance of developing some eccentric combination of the stomach contents which will practically produce an explosion and incidental heart-failure.

The intelligent public does not think it advisable to concentrate its mind too much upon the state of the bodily health, which is, of course, the correct way in which to look at the subject; but that does not imply that ignorance of physiology and digestion is a state of bliss. It is rather a process of skating over thin ice with the eyes shut.

Fortunately, the laity are awakening from their somnolent attitude as to physiologic cause and effect, and are thus able to anticipate the possible or probable effects of perverted function. This leads them to the doctor's office, often more for enlightenment than for medical treatment. When the time arrives that a considerable proportion of the doctor's office work is made up of brief lectures on physiology, that state of affairs will be greatly to the advantage of both physician and patient.

* * *

Small Farms for Teachers

A prominent educator suggests that the teacher be placed on the same plane of independence as the clergyman, by providing him with a small farm, to be compared with the parsonage conferred upon the pastor of the church.

In some sections of the country, physicians reside upon farms, and undoubtedly they must experience considerable satisfaction because of the incidental independence associated with farm ownership.

The family physician has about as much occasion to prescribe milk and eggs as he has to prescribe drugs. Unfortunately he cannot always be as sure of the purity of his foods as of his drugs. What could be more ideal than that the doctor who prescribes pure foods should be in a position to

supply them to his patients? Many a family that is a little slow about paying the doctor's bill would be prompt to pay both for foods and advice if they could be both secured from the same source.

* * *

Always Progress

The evolution of the arts brings with it new developments of disease. Already the term "occupational" disease conveys much significance to the professional mind.

Most of these disorders are associated with some perversion of muscular activity or the inhalation of disease-producing particles.

It is probable that pathologic manifestations of the tango will be classified as a mental disease. It is equally possible that some of the manifestations of this disorder will be placed under the paresis group of mental afflictions. Fortunately, such acute conditions are usually self-limited. It does not seem improbable that this most recent mental and physical affliction may have run its course and reached a period of recovery within a comparatively short space of time.

* * *

A Slandered Beast

Persistent misrepresentation usually produces a reaction. For generations the ferocity of the grizzly bear has been portrayed with great skill, chiefly by brave nimrods returning from vacation trips. From the graphic tales set forth the man-hunting tiger is a timorous beast in comparison.

It now appears that, left to his own devices, the grizzly is amiable and inoffensive, subsisting upon mice and other undesirable citizens of the animal kingdom, with a sufficient admixture of vegetable foods to make the "balanced ration" of which we hear so much, and that only when he is treated with that rudeness which we all naturally resent does he exhibit any ill temper.

It is proposed that the benevolent and paternal government provide a reservation for the grizzly in order that by some system of Burbankism he may be allowed to evolve himself into a friend of mankind. If this is done and he be permitted to pursue the even tenor of his way undisturbed by vacationists, he may develop a sunniness of temperament that will make no farm home complete without a grizzly.

* * *

Cannot Stand Luxury

Spartan simplicity seems to be essential to the health and well-being of the pig. If allowed to hunt (or at least squeal) for his meals the porker is a lusty animal with a good digestion and well-developed immunity to disease. But if reared in luxury among numerous blasé companions, the pig becomes obese and inactive, and his immunity becomes so reduced as to make him an easy victim to various disorders known but too well among hog breeders.

The present outlook for roast pig is indeed gloomy. Prices have risen to an almost prohibitive figure, and progressive farmers are pessimistic, notwithstanding the big inducements held out by dealers.

This train of evils is but another example of an age of luxury and snobbishness. It is no longer considered

good form to keep the pig in the parlor, or, in fact, to regard him as a companion in any sense. Banished from the sympathy and companionship of his owner, surfeited with fattening foods instead of subsisting upon scraps from the family table, the pig, once the pet and pride of the household, has lost his incentive. But a small knowledge of history is required to show that the logical result of such conditions is degeneration.

* * *

No Sex Instruction for Montclair

The city of Montclair, N. J., is up in arms in opposition to some proposed State legislation which will make sex instruction obligatory in the public schools of New Jersey. In the judgment of many onlookers their protests are justified.

Any legislature which proposes to overrule the wishes of a considerable number of parents in a matter as vital to the family as sex instruction betrays not only a lack of good sense, but that rawness which has brought contempt upon other State legislatures.

Of course, the rightful place for education of so personal a nature is the home. Children who are inmates of institutions and debarred from parental supervision may reasonably be instructed by properly constituted authorities; but to override the wishes of parents in the average home in this matter is as much an act of agression as it would be for a legislature to decree that, because bottle-fed infants are more susceptible to disease, each mother of an infant should be required to feed her child from the breast, irrespective of conditions.

* * *

Keeping the Nerve

The young son of a French-Canadian was desperately ill. The sympathetic neighbors, who liked the little fellow, were profoundly concerned. They considered the outlook serious. One of them, expressing his feelings to the father, was somewhat disconcerted by the laconic reply: "Oh, I guess he will pull through. It's hard to kill a Frenchman!"

The lad made a good recovery and received every educational assistance which his father's financial circumstances would justify. There was no lack of paternal affection. In the great physical crisis the father had simply kept his nerve.

The physician who can have the cool-headed co-operation of the family has a much better opportunity to carry a serious case through to recovery, and a cool head in such a crisis does not necessarily imply a hard heart.

That an optimistic family atmosphere is a great moral support to a very ill patient is too obvious to justify the assertion. And that many patients are depressed by evident family discouragement is equally obvious.

* * *

The Uplifters

Suppose you were a hard-working but healthy woman and while your husband was about his daily toil you decided to do the family washing and had your two or three also healthy small children in the same room, so

you could keep them warm and keep an eye on them.

Then suppose just when the room was in its maximum of disorder, suddenly, without any ceremony whatever, a man pushed his way into the room and against your most vigorous protests proceeded to take a picture of the room, just as it was, to be used on the screen as a part of a tuberculosis exhibit! You could then be fairly sure that you were being "uplifted."

It is a nice thing to know the order of exercises at a swell dinner or to be able to realize that at a high-priced restaurant pomme de terre does not mean sauer kraut; but it is a considerably greater accomplishment to possess the good breeding that permits a person of position to come into contact with the poor without patronizing them or doing violence to the basic principles of politeness.

* * *

Fish as a Cause of Cancer

We are now told that a diet of fish is productive of cancer.

We have known for a long time that the use of red meats was productive of Bright's disease, rheumatism, and various other ailments among those persons who are financially able to eat red meats in abundance. We are also aware that those deprived of meats and of a diet rich in protein develop tuberculosis in large numbers.

There seems to be no form of diet which can be depended upon to produce perennial existence.

It is remarkable how obtuse many persons seem to be as regards that systematic exercise in the open air so characteristic of the majority of those who reach a green old age.

* * *

The Bogey Man of New York

A young man reared in the smoky atmosphere of Pittsburgh, and naturally ignorant of what was transpiring at a distance of more than fifty feet, was suddenly transferred to the illuminated vistas of the Great White Way of New York. What he saw there was more than a revelation. It shocked his Pittsburgh conscience; whereupon, filled with righteous indignation, he removed one of New York's most conspicuous citizens.

The excuse advanced for this act of vandalism was not considered sufficient, and certain guardians of the peace of Manhattan Island devoted many months to the purpose of placing this myopic champion of the poor and unsophisticated in Matteawan.

Finding his life at this resort somewhat tedious, the Pittsburgh champion hereinbefore mentioned (to use the appropriate legal verbiage) resolved to get out, as he did.

And now, after a lapse of several months, cold chills are still chasing each other in rapid succession up and down the spines of a large corps of alienists and at least one distinguished member of the legal profession, who insist that justice demands the return of the champion aforesaid to the seclusion of Matteawan, because — possibly afflicted with another brain storm—he may be led to try corporeal experiments on one or more of the distinguished alienists and various other eminent citizens.

Notes and Comments

F. A. DAVIS COMPANY, Publishers A. G. CRANDALL, Manager

DRUG AND ALCOHOL HABITS AND THEIR CURE.

There is one very large problem looming up before this country and that is what is to be done with the victim of drugs or alcohol.

For years it has been the puritanical habit to regard these habitués as merely so many examples of willful perversion. In the opinion of a large number of uninformed people, all that is necessary is that these perverts stop using the narcotic which has done them so much harm and that they can immediately become as other men.

This point of view takes no account of the gradual but inevitable modification of function which follows the acquirement of one of these habits. Before the addict can be restored to a normal mental attitude toward these destroying substances, he must be also brought back to a somewhat normal physical condition. There is no short cut that will accomplish this desirable object. The habitué must undergo a process of physical regeneration to provide a reasonable basis of support for the moral regeneration which even the most superficial observer will admit is necessary to a cure.

The physician who is ready to advise a great financial sacrifice on the part of some family in ordinary circumstances who may be considering the sending away to a sanitarium of a tubercular case should be equally ready to counsel a similar financial sacrifice where there is a serious case of addiction. In the latter case, indeed, there is much more ground for hope of ultimate recovery, as there are institutions where the inebriate and drug habitué can, at reasonable expense, be placed once more upon the firm ground of self-respect and his chances for relapse much less than in the case of the arrested or improved tubercular patient.

Conspicuous among these institutions may be mentioned the sanitarium of Dr. Geo. H. McMichael, of Buffalo, who has brought into his work not only a professional knowledge acquired through many years of experience, but a broad humanitarian instinct which is very effective with such unfortunates.

THE HOUSEFLY LARVÆ.

A recent bulletin of the Department of Agriculture refers to the migratory habit of housefly larvæ as indicating a favorable remedial measure.

This paper deals with the extraordinary propagation of the housefly in the average manure pile. The statement is incidentally made that an infestation of 20,000 larvæ were found in a barrel of manure. Then follows the suggestion that migration of these larvæ be prevented by means of wire netting.

In view of the fact that there are a good many millions of these favorite breeding places to be found throughout the various farms and urban stables, the proposed plan for restricting propagation certainly involves a very considerable expenditure of money and time. Until the public sentiment has undergone a very considerable change, it is hardly likely that such restricted methods will come into general use.

From the economic standpoint, it is extremely desirable that the manure pits be constructed of

(CONTINUED ON ADVERTISING PAGE 33.)

some watertight material to prevent seepage and loss of fertilizing fluids. Any process of education along this line would be much more likely to be effective, as in this event an appeal would be made to the selfish interest of the farmer and stable man; and if, as indicated by this report of the Agricultural Department, the propagation of the housefly depends upon the migration of the larvæ from the manure pile into the immediately adjacent soil, the cement receptacle would not only present the merit of saving the natural loss of fertilizer by seepage, but would present an equal handicap to the propagation of the housefly incidentally.

It is desirable to restrict so far as possible the propagation of the disease-spreading housefly, but there are evidently some ways of accomplishing this which are more practical than others.

A NEW BICHLORIDE TABLET.

The wave of accidental poisoning from Bichloride Tablets that seems to be sweeping the country ought to receive a set back from the Coffin-shaped Tablets the Norwich Pharmacal Company, of Norwich, N. Y., is just introducing.

Their Bichloride Tablets are made in the shape of coffin with "Poison" in raised letters on one side and skull and cross-bones on the other. The container is a coffin-shaped bottle whose entire surface, with the exception of the label space, is covered with well-defined, diamond-shaped projections. An attractive two-color label calls renewed attention to the dangerous contents of the bottle.

This unusual and gruesome shape, both of

tablet and bottle, certainly ought to halt any one but an imbecile by its suggestive character, while the sharp projections on the bottle, in daylight or darkness, are bound to call instant attention to the unusual and poisonous character of its contents. As it is impossible to pick up one of these bottles without feeling these projections, its advantages as a precautionary container are obvious.

The Norwich people have always been alert in anticipating the demands of the professional public, and this latest product from their laboratories indicates that they still have their ears to the ground.

INTESTIFERMIN

To Retard Old Age.

Just why it is that a man who has escaped tuberculosis and other dangers of early life and who has been favored with a good digestion and the incidental development of a considerable amount of constructive energy should, as frequently happens, break down in the 50's has been for a long time a puzzle. It is now believed that the intestinal tract affords the solution.

Professor Metchnikoff, a few years since, announced his Yoghurt theory as to the cause of the extraordinary longevity of certain Bulgarians. This theory seemed so reasonable as to find immediate acceptance and Yoghurt has already been an article of commerce for some time.

After giving this matter a good deal of study, it is Professor Metchnikoff's belief that Yoghurt cannot in itself be depended upon to supply the lactic acid bacilli with sufficient nourishment, and his new product, Intestifermin, is intended to insure the distribution of the lactic acid bacilli throughout the lower intestines in a combination which will afford them nourishment, thus guaranteeing the best results from their presence in this old-age-producing tract of the human body.

This subject is intensely interesting and can be but briefly mentioned here. Physicians, however, can get full information by addressing The Berlin Laboratory, Ltd., at their New York office, 225 Fifth Avenue.

SAFE ANTISEPTICS IN GONORRHEA.

Tincture of iodine irrigations in solution of from 1 to 4 drams to a quart of hot water is said to be one of the safest and best antiseptics that can be used in gonorrhea. The strength of the solution and number of irrigations a day depend upon the stage of the disease. To keep the urine bland and non-irritating sanmetto

should be administered in teaspoonful doses three or four times daily throughout the treatment. In cases of extreme acidity of the urine one of the potassium salts will be found helpful.

INSURANCE AND THE PUBLIC HEALTH.

On December 11th and 12th, 1913, there was held in the Hotel Astor a meeting of The Association of Life Insurance Presidents, the proceedings of which have been published in a pamphlet of 200 pages.

About every patriotic male citizen of voting age in the United States (and probably some female citizens) has received one or more imposing reprints,—"part of the Congressional Record free,"—which has been sent out to him by his congressman or senator.

If it were possible to substitute for these sections of the Congressional Record a few hundred thousand copies of this insurance pamphlet, it would be considerably more to the public advantage.

It is logical that the insurance companies should be keenly interested in the public health, and the range of discussion at the recent meeting shows how seriously this subject is taken up by the companies.

An address by Dr. Rupert Blue, Surgeon-General United States Public Health Service, Washington, D. C., could with profit be distributed among all intelligent families. Dr. Blue well says that: "The future of sanitary administration in this country depends upon the interest which the citizens take in its development. . . . The feverish energy in sanitary matters which characterizes the general public in time of epidemic soon gives way to lethargy and indifference to public health matters. The average individual is willing to take a chance of contracting a disease when it seems a long way off."

"Who builds a ship must first lay down the keel
Of health, . . .
And knit, with beams and knees of strength, a bed
For decks of purity, her floor and ceil.
* * * *
Then bid her crew, love, diligence and wit
With justice, courage, temperance come aboard,
And at her helm the master reason sit."

The real medicoliterary treat of the occasion was found in the address of Dr. Victor C. Vaughan, President American Medical Association, on a conception of medical practice which he entitled "The Doctor's Dream." In this address Dr. Vaughan refers to the manufacturer whose employees are compelled to work in ill-lighted and poorly ventilated rooms, failing to realize that the efficiency of the working force would be increased under more favorable conditions to a degree far out of proportion with the increased cost of providing suitable quarters.

Dr. Vaughan also pays his respects to the fast fraternity life at college by referring to the young collegeman who "was a walking culture flask of spirochetes." He refers to the carelessness among practitioners who confuse persistent tubercular cough with bronchitis. He also comments upon certain social fads: "But dogs must not be muzzled. Women with plumes, torn from living birds, in their hats, formed a society for the prevention of cruelty to animals and so declared."

It was then that the doctor fell in a doze in his office and had a dream. He dreamt that his waiting room was filled with people, old and young, of both sexes, who had come to be examined in order to ascertain the actual condition of their health. A young man wishes a thorough examination before marriage. He desires to become the father of healthy children and tells the doctor to examine him as carefully as he would were he applying for a large amount of life insurance. A woman undergoes a slight operation under local anesthesia, and is relieved of the first and only malignant cells found in her breast, etc.

Dr. Vaughan concluded his remarks by an appeal to the insurance companies to "join the doctors and help in the great work for the uplift of the race through the eradication of unnecessary disease and premature death," further stating that, "since 1882, taking the civilized world all over, the deaths from tuberculosis have been reduced 50 per cent."

THE UNREST OF ACUTE INFECTIONS.

It frequently happens that one of the most annoying symptoms of an acute infection is a state of marked restlessness. An agent of particular utility on this condition is Bromidia (Battle) which, although administered in small dosage, may be relied upon to quiet the wrought up nervous centers and secure for the harassed patient the rest he so obviously needs.

WOMEN TO HAVE THE FLOOR.

The May issue of the Medical Review of Reviews is to be a Woman's Number. All the articles contributed will be from the pens of women physicians. The Medical Review of Reviews has been conspicuous in the various phases of the feminist movement, as exemplified by some recent events in New York, and the women physicians will probably take a deep interest in this forthcoming Woman's Number of that journal.

THE PNEUMONIA CONVALESCENT.

While the course and progress of acute lobar pneumonia is short, sharp and decisive, the impression made upon the general vitality is often profound, and apparently out of proportion to the duration of the disease. Even the robust, sthenic patient is likely to emerge from the defervescent period with an embarrassed heart and general prostration. In such cases the convalescent should be closely watched and the heart and general vitality should be strengthened and supported, and this is especially true as applied to the patient who was more or less devitalized before the invasion of the disease. For the purpose indicated, strychnia is a veritable prop upon which the embarrassed heart and circulation can lean for strength and support. As a general revitalizing agent is also needed at this time, it is an excellent plan to order Pepto-Mangan (Gude), to which should be added the appropriate dose of strychnia, according to age, condition and indications. As a general tonic and bracer to the circulation, nervous system and the organism generally, this combination cannot be surpassed.

MEDICAL INTERNE WANTED.

On April 8th, United States Civil Service examinations will be held for the purpose of selecting internes to fill vacancies in the Government Hospital for the Insane at Washington, D. C. This position pays a salary of $75 per month and maintenance.

Applicants must be unmarried, over 20 years of age, and may be either men or women.

Graduation from a reputable medical college is an essential qualification.

Examinations will for the most part be made by the Local Boards of the United States Pension Examiners.

Qualified persons who desire to take this examination should immediately apply to the United States Civil Service Commission, Washington, D. C., for information.

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